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ABSTRACT

These papers and addresses presented at the New York State Educational Communication Association cover a wide range of topics centering around the general problem of stimulating learning through instructional technology. Specifics range from learning theories, to budgets, and to particular techniques and technologies. (RH)

ED 071393

# Strategies for Learning

## New York State Educational Communication Association

Convocation

Reports

Grossinger's
Grossinger, N. Y.

Price $6.00

November 2–5, 1971

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# COMMUNICATIONS CONVOCATION

Grossinger's, New York

November 2-5, 1971

## LEARNING STRATEGIES

U.S. DEPARTMENT OF HEALTH, EDUCATION & WELFARE
OFFICE OF EDUCATION
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### Tuesday - November 2

2:00 p.m. REGISTRATION

3:00 p.m. HOSPITALITY
6:00 p.m.

8:30 p.m. GREETING AND AWARDS
9:45 p.m. Media Consultant, National Film Board of Canada **(pg. 8)**
Doug Eliuk, Screen Study Program

### Wednesday - November 3

8:45 a.m. REGISTRATION

9:30 a.m. EXHIBITS OPEN

9:30 a.m. IMAGE-INATION
10:15 a.m. Katherine V. King, New York State Education Department **(pg. 15)**
(concurrent sessions)
The presentation demonstrates the differences between visual and verbal art forms. Involvement gives the participants the opportunity to discover the unique characteristics of drama, short story, and metaphor in relation to the visual image. (2 periods)

TELEVISION PRODUCTION AND UTILIZATION FOR A SCHOOL DISTRICT
Francis J. Ryan, Diocese of Rockville Centre
The many-faceted production tasks involved in planning and taping a program will be covered in some detail.

SEQUENTIAL BEHAVIORS IN MATHEMATICS
Thomas J. Lawson, Brockport
A variety of teacher-made as well as professionally made materials will be discussed by category in terms of their effectiveness as well as limitations to supporting a mathematics program.

BUILDING AN INSERVICE PROGRAM IN EDUCATIONAL MEDIA
Tom McKeever, Medina
This presentation will illustrate a district's approach to the formal and informal inservice education of its staff.

KEEP THEM HOPPING
Pasquale J. Santacroce, Utica
Are you looking for a way to raise the level of slow learners? Are you looking for a way to motivate incorrigibles? The proof is in the results.

Wednesday - November 3 (continued)

CAMERAS: WHAT ACTIONS? HOW TO USE PICTURES
Arnold Winegarden, New York University
Sponsored by Metropolitan Audio Visual Association

What can the camera do? When should you use the camera? These and many other questions relating to the use of the photograph in education will be answered.

THE COST OF MAINTAINING EDUCATIONAL COMMUNICATIONS EQUIPMENT
David A. Humphrey, Educational Communications Centers, State University of New York

A report of a study of techniques for budgeting expenditures in maintaining educational communications equipment. The formula devised may be employed by any agency, regardless of size.

10:35 a.m. IMAGE-INATION
11:20 a.m. Katherine V. King, New York State Education Department **(pg. 15)**

(Final part of earlier presentation.)

READING TELEVISION
Lloyd G. Howe, Norwood-Norfolk **(pg. 20)**

This presentation is designed to demonstrate students can develop analytical skill to differentiate between information and manipulation in television messages.

PROGRAMED INSTRUCTION: IF SOCRATES DID IT, SO CAN YOU!
John E. Keshishoglou, Ithaca College

This presentation discusses the many forms of programed instruction; identifies the characteristics such as size of steps, logical progression, continuous reinforcement, and feedback; and explains how the teacher can program materials for his own class.

OPEN FORUM ON INSERVICE EDUCATION
Henry C. Safnauer, Camden
John Button, BOCES, Herkimer

Inservice education for teachers is always a concern. Presenting several inservice models should lead to an open forum.

REGIONAL EDUCATIONAL COMMUNICATIONS SERVICES THROUGH BOCES
Herbert Liberman, Yorktown Heights

Highlighting the services offered by BOCES with special emphasis on the Educational Communications Program.

READING RELEVANCE THROUGH MEDIA
Judy Jarett, Beaver Falls, Pennsylvania **(pg. 24)**

A reading program was conducted using media to upgrade reading skills. Improved attitudes toward self and other hard-to-evaluate areas were noted and quantified.

Wednesday - November 3 (continued)

GUIDELINES FOR DESIGNING MULTI-MEDIA MODULES OF INSTRUCTION
Ronald R. Nicoson, Ithaca College
The case study shows how color television and film, including front screen television projection, and two-way audio channels, are used simultaneously in medical instruction.

11:30 a.m. GENERAL SESSION
Norman Siegel, President

SPEAKERS:
Leo A. Soucy, Assistant Commissioner for School Services

John G. Broughton, Associate Commissioner for Cultural Education **(pg. 3)**

2:00 p.m. MINI LESSONS ON VIDEOTAPE: AN EASY WAY TO TRAIN TEACHERS TO TEACH READING EFFECTIVELY
Doris Selub, Freeport **(pg. 37)**

VISUAL LITERACY: ITS IMPLICATIONS FOR REDESIGN OF EDUCATION
Grace N. Lacy, New York State Education Department
Norman Siegel, New York City
Man must be educated to see. Until recently, the goal of teaching has been almost exclusively verbal literacy. In an increasing visual culture, man must also develop new vision competencies which are fundamental to human learning.

WATCH THE MEDIA-MINDED KIDS GET WITH IT
Sheldon F. Katz, Spring Valley **(pg. 32)**
This generation has been weaned on television and stuffed with movies; therefore, let the students put their hands on these materials to express themselves visually.

AUDIO-TUTORIAL TEACHING IN ELEMENTARY SCIENCE
Joseph Novack, Cornell University **(pg. 35)**
Edward W. Moy, BOCES, Ithaca
An individualized self-instructional program was developed based on programed learning, cassette tape recorders, and science equipment.

ORGANIZING INDEPENDENT LEARNING ACTIVITIES THROUGH MEDIA CURRICULUM PROJECTS
Rod Jaros, Chappaqua **(pg. 45)**
It takes more than a faculty, equipment, materials, and staff to shape a successful media program. One way to achieve crucial faculty involvement is to sponsor media curriculum projects. This presentation will illustrate the nature and scope of this approach, including examples of specific media projects.

MUSIC AS A MEANS OF MIND EXPANSION
Nancy S. Pulsifer, Brunswick, Maine
Excerpts from four multimedia kits which use music as a catalyst in relating curricula will be demonstrated.

NEEDED: ALTERNATIVE COMMUNICATIONS PROGRAMS IN HIGHER EDUCATION
Lawrence S. Garfinkel, Hofstra University **(pg. 50)**
We should seek, encourage, and support alternative programs in college communications, and here are some suggested new directions for our consideration.

3:00 p.m. DEVELOPING AND OPERATING A RESOURCE CENTER TO FACILITATE
3:45 p.m. INDEPENDENT STUDY
Rodney Van Housen, Syracuse

EMPHASING THE "CO" IN COMMUNICATIONS: MEDIA AND THE ENVIRONMENT
Leo C. Irrera, New York State Education Department **(pg. 39)**

CREATIVE STRATEGIES: SUCCESS STORY WITH UNSUCCESSFUL CHILDREN
Peter M. Weiner, Yorktown Heights **(pg. 53)**
William S. Meacham, White Plains
Most emotionally disturbed youngsters are highly creative, and the use of television has allowed many of them to show their creativity for the first time.

SCIENCE SAFARIS: AN ENVIRONMENTAL EDUCATION PROGRAM
Michael Holstein and Benjamin Aizeman, Brooklyn
The program is designed to take advantage of the wildlife areas within the city to introduce basic ecology, botany, zoology, and geology to elementary children.

USE OF COMPUTER IN MEDIA SERVICES
Dorothy H. Currie, Yonkers
Sponsored by Metropolitan Audio Visual Association
A computer is used for data handling of acquisitions, production of catalogs, bibliographies, reservation requests, and retrieval of information.

RESEARCH AND DEVELOPMENT IN INSTRUCTIONAL TECHNOLOGY
Behaviorial Objectives in Vocational Education
Louis A. Cohen, New York State Education Department
Project CAM (Comprehensive Achievement Monitoring)
Project SPED (System for Program Evaluation and Development)
Robert P. O'Reilly, New York State Education Department

USE OF MODULES OF INSTRUCTION IN TRAINING FOR MEDIA UTILIZATION
Richard C. Howard, University of Rhode Island **(pg. 43)**
Two modes of instruction will be examined: 1) utilization of slides and cassette in carrels, and 2) direct lecture method.

Wednesday - November 3 (continued)

4:00 p.m. DANCE, MEDIA, AND THE COLLEGE CLASS
4:45 p.m. John Mueller and Norman Schnapper, University of Rochester

JOB PLACEMENT THROUGH DIAL ACCESS
Bruce Waldman and Frank Capone, Jersey City State College
Five-minute television programs via dial access provide time saving job surveys for college seniors.

A MULTIMEDIA, MULTIDISCIPLINE APPROACH TO THE READING OF A STORY
Florence Sitrin, Utica
Learning can be exciting and fun. When we combine all this with the reading of a story, new strategies in learning take place.

VIDEO-CYCL: AN EFFECTIVE PROCESS FOR MODIFICATION OF TEACHER BEHAVIOR
Mary T. Raris, SUC at Geneseo

PRODUCING YOUR OWN SUPER 8 FILMS
Ernst Wildi, Paillard Incorporated
The program will describe how teachers and students can produce their own films, and will suggest ideas for using Super 8 cameras in various educational applications.

IMPLEMENTATION OF AN INDEPENDENT STUDY PROGRAM AT THE COMMUNITY COLLEGE LEVEL
Leonard Smoke, Hudson Valley Community College
Topics to be covered and illustrated include selection of equipment and furniture, burglarproof installations, backup materials and supplies, personnel needed, electrical and carpentry changes.

4:30 p.m. EXHIBITORS' MEETING

7:00 p.m. DINNER (INFORMAL) - HAWAIIAN LUAU
9:00 p.m.

Thursday - November 4

9:30 a.m. PORTRAIT OF A RURAL AREA: SURVEY OF A 10-COUNTY AREA
10:15 a.m. SURROUNDING SUC - GENESEO
Eva Harriet Goff, Geneseo **(pg. 57)**
The study relates to "Strategies for Learning" by describing an arena in which some learning strategies may be implemented.

MODIFYING TEACHERS' BEHAVIOR: NYSEIMC STYLE

Frederick D. Arce, New York State Education Department **(pg. 60)**

Methods and programs for training teachers (with even one special education student) in the newer approaches such as individualized instruction, will be illustrated.

PROJECT SAFE: AN INDIVIDUALIZED PROGRAM IN BASIC COMMUNICATION SKILLS

Brian C. Horney, Oneonta

The program is designed for educable mentally retarded at the primary level. Self-instruction units in media production and its utilization in the classroom will be available as well as abstracts of research projects, management guidelines, evaluation forms, and information on the hardware used in the pilot test.

A WAY OF READING OBJECTS

James P. Gold, Walter Elwood Museum, Amsterdam

A visual study of a single museum object, its many sides, shapes, parts, and values. This presentation is designed to raise questions and encourage discussion of the roles museums and objects play in our present-day society.

NOISE: THE CASE OF THE DEVIOUS DECIBEL

David M. Silverstone, Monroe, Connecticut

A general report of three surveys on noise in education will be made, including general trends, problems created in school by noise, and the noises that specifically affect school construction in the United States.

MEDIA STRATEGIES FOR TEACHING AN INTEGRATED LANGUAGE ART PROGRAM

Louis Wohl, Far Rockaway

The Multi-Sensory Teaching Laboratory is an attempt to integrate the language arts skills and content areas in a multimedia setting.

FROM MEDIA TO INSTRUCTIONAL DEVELOPMENT: PREPARATION OF MEDIA PROFESSIONALS

Norman Linck, Pittsburgh, Pennsylvania

The University of Pittsburgh has recently revised its curriculum for the preparation of professional educational media personnel. Revisions were made in response to observed changes in competency requirements.

THE VCU (VISUAL CURRICULUM UNIT): A FORMAT FOR CHANGING CLASSROOM BEHAVIOR

Monard G. Sanford, Coronet Films

Based on a visual literacy approach, the VCU provides teachers with a systematic and creative format for motivating interest, developing successful learning skills, and assuring student participation.

Thursday - November 4 (continued)

10:30 a.m. GENERAL SESSION
12:30 p.m. Theodore Henry, President-elect

SPEAKERS:

REORGANIZATION OF EDUCATIONAL COMMUNICATIONS
Lorne H. Woollatt, Associate Commissioner for Research and Evaluation
Carl Wedekind, Director, Division of Research and Educational Communications
Raymond Graf, Supervisor, Educational Communications

2:00 p.m. PLANNING AUDIO DIAL ACCESS
2:45 p.m. Edward R. Stevens, Ronald A Hezel, Frederick Rivara, Merrick (pg. 69)

A WORKING MODEL FOR A VISUAL LITERACY THEORY
Lawrence S. Garfinkel, Hofstra University

ICEIT: THE YEAR AHEAD
Raymond Graf, William J. Halligan, and Nancy Pline (pg. 66)
New York State Education Department
Cost-effective instruction can be realistically and reasonably achieved only through the massive application of professionally planned and humanely applied instructional technology systems.

DIAL ACCESS, LEARNING WALLS, AND THE MEDIA-ORIENTED LIBRARY
Ronald M. Braz, Freeport
Insights have been gained into the pros and cons and effectiveness of these programs. This presentation will examine the concepts, utilization and the recommendations of dial access to those who may consider similar ventures.

USE OF AUDIOVISUAL TECHNIQUES IN BUSINESS EDUCATION
Abraham Ginsberg, Brooklyn
Sponsored by Metropolitan Audio Visual Association
Innovations in the classroom have validity only if they contribute to the learning process. The problem is to get the student to want to learn.

NUTRITION: NEW-FASHIONED EDUCATION THROUGH GAMES, GIMMICKS, AND GAMBITS
Marcella B. Guiney and Arline Harris, Metropolitan Dairy Council (pg. 71)
Nutrition is to total health what reading is to total education. Nutrition educators demonstrate innovative ways of communicating fundamental concepts and major understandings about nutrition.

HIGHER EDUCATION CRACKERBARREL SESSION
Maryln Zahler and Toni Gregg; Cochairmen

ETV SUCCESS THROUGH EFFECTIVE PUBLIC RELATIONS
James S. Coons, Bainbridge-Guilford
This presentation will detail several ways of presenting ETV to the public as well as explain several public uses of TV facilities in the schools.

2:00 p.m.
4:30 p.m.
BOCES ANNUAL BUSINESS MEETING

3:00 p.m.
3:45 p.m.
HIGH-CONTRAST PHOTOGRAPHY FOR MORE EFFECTIVE SLIDE PROGRAMS
William F. Van Wyck, Nyack
This presentation will focus on how an inexperienced person can, with limited equipment, produce professional quality title slides and progressive disclosures for a variety of communications needs.

TRAGEDY IN THE TOWER
Maryln Zahler and Melvin Tucker **(pg. 76)**
Combining forces of the academician, the media department and services of other local colleges, we produced a video tape, with special effects, dramatizing the most famous murder mystery of all times: The Death of the Princes in the Tower of London.

STATE OF THE ART OF THE VIDEO CASSETTE
Fred Samuel, Sony Corp.

PROGRAMED SPEECH IMPROVEMENT SYSTEM
Howard Berkun, New York State Education Department
A programed speech improvement system was developed so that students needing speech correction can be handled via machine and paraprofessional help.

SIMULATION MATERIALS TO IMPROVE OCCUPATIONAL AWARENESS
Whitney Wilkes, New York State Education Department
Three films were designed to acquaint young people with the world of work.

TOWARDS PERSONAL AWARENESS - WHY DRUGS?
William Hetzer and Anthony J. DiBenedetto
New York State Education Department
The process of this new personal growth learning system is organized around a series of three short film modules based on life situations and used in combination with carefully structured group discussion.

INSTRUCTIONAL TELEVISION
Joseph E. Baker, Pomona

Thursday - November 4 (continued)

LOCAL PRODUCTION OF FILMLOOPS FOR VOCATIONAL PROGRAMS
Arnold D. Tversky and Michael Pagan, Dover, New Jersey **(pg. 78)**
Vocational teachers and the communications director join together in developing filmloops for programs in cosmetology, graphic arts, auto mechanics, machine trades, and other similar areas.

4:00 p.m. THE MASS MEDIA: NOT AS STRATEGY BUT AS THE SUBSTANCE
4:45 p.m. OF LEARNING
Philip S. Gelb, Bronx Community College

STAND-BY SHENENDEHOWA MORNING SHOW
Larry Bobbert, Shenendehowa
Shenendehowa's student TV crew produces a morning show, educational tapes, community programs, and inservice seminars.

VISUALIZING THE SCHOOL BUDGET: EWING TOWNSHIP PUBLIC SCHOOLS
Jack Watro and William Cade, Bordentown, New Jersey
The presentation covers the background of the how and why of communications, the steps followed to prepare and present the program, the results or effects of the presentation, and the equipment necessary to produce such a program.

A UTILIZATION OF NON-NARRATION FILMS: A DEMONSTRATION WITH A SEMINAR OF CHILDREN
Julian Bryan, International Film Foundation
The discussion will focus on the motivational use of many different short educational films with small groups of students.

COMMUNICATION ARTS AND CONTINUING EDUCATION
William R. Berry, SUC at Geneseo
A highly successful continuing education course designed for clergymen and lay leaders of the church was developed by the State University College of Arts and Science.

CINEMA LITERATURE
George P. Rehrauer, Rutgers University **(pg. 81)**

8:45 p.m. GENERAL SESSION
10:00 p.m. Installation of Officers

Thursday - November 4 (continued)

GENERAL SESSION (continued)

SPEAKER:

Thomas D. Sheldon, Deputy Commissioner for Elementary, Secondary and Continuing Education **(pg. 1)**

Friday - November 5

PANEL OF GENERAL PROBLEMS
William Bristow, New York

9:30 a.m. TESTING TIES TECHNOLOGY TO TEACHING
10:15 a.m. Leslie M. Gibian, Ossining **(pg. 82)**
Sponsored by Westchester County Educational Communications Association
What happens in the mind of the student before, during, and after exposure to an audiovisual presentation.

FOCAL COLORING BOOK OF POT (POTENTIAL OF TECHNOLOGY)
Carin Chapman, BOCES, Jericho
A multimedia presentation illustrating our role in humanizing education and systematically planning for change.

VIDEO TAPE APPLICATIONS IN EDUCATION
Fred Knapp, Sony Corporation of America
A demonstration of the uses of video tape in education.

WHAT IT'S ALL ABOUT: GREENWICH HIGH SCHOOL NEW MEDIA CENTER
Elfrieda McCauley, Greenwich, Connecticut
A visual presentation illustrating several ways in which media and the media center staff function in a learning support program.

THE USE OF MULTIMEDIA KITS FOR HEALTH EDUCATION INSTRUCTION
Erick M. Jager, Glens Falls
The project was developed to demonstrate to teachers the advantages of using media resources to implement the objectives of the revised New York State Health Curriculum.

SOME PERCEPTUAL BASES FOR LEARNING STRATEGIES
Clarence O. Bergeson, SUNY at Albany
Learning strategies should take into account the individual's needs, among other things, for perceptual readiness, for perceptual preparation, for perceptual development, and for multisensory experiential foundations.

Friday - November 5 (continued)

THE WIRELESS HEADSET: LISTEN AND LANGUAGE

John Visaggi, Dictation Disc Company

Headsets put additional learning sessions into the classroom by separating youngsters into groups and providing tape teaching in the various subject areas.

10:35 a.m.
11:20 a.m.

TRAVEL DOCUMENTATION OF RELATIONS BETWEEN FOLK CULTURES IN SUPER 8 SOUND

Martin Aaron, New York City

Super 8mm and sound productions made in Europe are used to bring home to our children and teachers the interrelationships of our culture with many others as expressed in work and folk customs.

FIVE YEARS OF PROJECT OPPORTUNITY: WHAT HAS HAPPENED AND WHY

Donald E. Walters, Buffalo **(pg. 85)**

A special media saturation program was designed for selected inner city schools in Buffalo. A slide-tape presentation augmented by video tape segments illustrates teacher-pupil activities evoked by the program.

A WORKING MEDIA CENTER

Robert Wood and Robert Larsen, New Canaan, Connecticut

Included in the presentation will be a description of the instructional program, services, and mechanics of the Library-Media Center, and how it acts as a catalytic agent to support a changing curriculum.

BRIDGING THE SCHOOL AND HOME THROUGH AUDIOVISUAL MEDIA

Doris Papworth, Utica

What did you learn today? A program using media was developed to show parents that something really does happen in kindergarten.

NON-NARRATIVES TAKE ON SHARP FOCUS

Ed Greco, Sterling Educational Films **(pg. 88)**
Len Ingraham, New York City

New films and film clips will be used to demonstrate some successful patterns in the use of non-narrative films.

A SYSTEM FOR ACCOUNTABILITY AND EVALUATION OF EDUCATIONAL PROGRAMS

Alexander Schure, New York Institute of Technology

The presentation includes a generalized educational management system: a specialized file-handling capacity, forecasting capabilities including personnel, program and budgeting systems via simulator capabilities, and the capacity to organize and use a wide range of models relevant to educational accountability.

OPEN CLASSROOM: A KINESIC ENVIRONMENT

Rusty Rodriguez, Darien, Connecticut

Friday - November 5 (continued)

LONGER LIFE FOR YOUR FILMS: HOW TO INSTITUTE A PLANNED FILM MAINTENANCE PROGRAM
Ivan Ellis, Rapid Film Technique, Inc.
Damaged film that is prematurely discarded represents wasted dollars that could be used to buy new prints instead of replacement prints. Presentation will include information on budget and examples of actual maintenance programs.

11:40 a.m. RESEARCH SKILLS: "THE FOURTH R"
12:25 p.m. Jerry Waters, Fordham Equipment and Publishing Co.
A specially designed program which teaches indexing techniques used in general and specific reference tools employed in search.

DEVELOPMENT OF A LEARNING CENTER
Jacqueline Barrett, Mohawk
Desire for a learning center started several years ago. Problems encountered and solved in developing a center will be presented.

INNOVATIONS IN TEACHING COURSES IN BROADCASTING
Myron B. Shaw, SUNY at Geneseo
This presentation is designed to describe and illustrate methods of teaching courses in broadcasting which will provide relevance, stimulation, and meaningfulness to the student.

WHERE IT'S AT: MAKING THE MOST OF AVAILABLE MATERIALS
Leslie M. Greenberg, National Audiovisual Center

OPERATION "LEADER"
Tyson C. Kinsell, Coudersport, Pennsylvania
Operation LEADER has developed and applied a third generation on process approach to the use of systems theory for educational design and development.

HOW TO STAMP OUT AUDIO GRAFFITI AND PILFERAGE IN CASSETTES CIRCULATION
Harold Levitt, Teaneck, New Jersey
By their nature, cassettes introduce two new problems that will seriously affect their circulation as a learning medium. Cassettes are easily modified and are prime targets for pilferage.

# NEW DIRECTIONS IN INSTRUCTIONAL TECHNOLOGY

By Dr. Thomas D. Sheldon
Deputy Commissioner for Elementary, Secondary and Continuing Education
State Education Department
Albany, New York

The following are excerpts from a Position paper presented by Deputy Commissioner Sheldon at the Thursday evening general session of the New York State Educational Communications Association's 24th annual convocation held at Grossinger's, New York, November 2-5.

I came tonight on what I consider to be a very serious mission. I'm going to try to address myself to this business of strategies for learning.

It's said that if Socrates were to come back to the world and get a chance to walk among us, he'd be least surprised by the difference in what happens in school classrooms throughout the world. I'm not sure I agree with that. But I do agree with this - he certainly would see more change, technologically speaking, in the outside world than he'd be apt to see in our classrooms. I always stop and think a little bit and say, "We'd better not give up too quickly on all we do, because after all, the boys and girls and the men and women that built those new jets and those modules came out of the sort of classrooms that we seem to be castigating."

There is little doubt that the changes that we see in technology today are affecting our customers. They're getting a different kind of an education outside of our schools and our classrooms than they're getting inside.

We're in one of these best of times/worst of times. This civilization we have is not just an accident and didn't drop among us, education has had something to do with it.

Peter Drucker wrote recently, "Teaching is the only occupation of man for which we have not yet developed the tools that make an average person capable of competence of performance. Education must be changed for it's headed straight into a major economic crisis." There are two things wrong with that statement. It's not headed into an economic crisis, it's in an economic crisis. And then the worst about it that I see is that Drucker is wrong to a great degree in saying that we have not yet developed the tools. The greater thing is that we haven't used the tools that we've already developed as effectively as we might have.

A recent bulletin from the Research Committee for Economic Development states, "Schools must become more effective, and increasing expenditures will not guarantee improved education, for additional funds are often employed to perpetuate inefficient techniques and ineffective programs. Greater efficiency and economy in educational practice can only be achieved through efficient, effective use of technology." It also points out "that in the past technology has been employed merely to translate existing curricula into newer media rather than for boldly exploring fresh strategies to stimulate learning. Today new approaches must be found and technologically oriented educators must move into the center of the planning process in education." We hope that the combining of our Communications Units with research activity will effectively point in that direction.

The hallmark of commercial technology is the successful blending of technical capacity and human resources to provide cost effective products. Although the aims of education are not to process products but to educate fully rounded human beings, the same process for using technology to produce more in less time with less effort and money is as necessary to our educational system as it is to industry. It is not vulgar to attach dollar signs to the spread of wisdom. Producing more with less through technology has never really been tried in education. Although experimentation with the tools of technology is widespread, their use has been largely supplemental.

The haphazard use of technology in education can no longer continue. The state of our society and economy today now demands an important confrontation in terms of what education has done and can do with technology. The McMurrin Report published by the Commission states in part: "Instructional Technology is more than the sum of its parts...the media, the software, the hardware, the professionals and the technicians. It is a systematic way of designing, carying out and evaluating the total process of learning and teaching in terms of specific objectives based on research in human learning...It employs a combination of human and non human resources to bring about more effective instruction."

Technology cannot be an innovative overlay on an unaltered traditional system of education. It is neither logistically nor economically practical when it is employed that way.

I think it's a sin in another practical sense that today the Seventh Army in Germany will take an average young man from 18 to 22 years old and in almost a complete mechanical system will educate him in the use of the German language in 8 weeks with a vocabulary of about a thousand working words so that he can go out and operate effectively in the community. Ladies and Gentlemen, we don't do that in four years.

The State Education Department recognizes its need for leadership in these new directions and is now in the process of writing a position paper on instructional technology which definitely links the future of education with technology. This paper will be read to the Regents in the next few months, and on that position paper may hang the immediate future direction of educational communications in this State. The definite point of view taken in the paper will be toward effiency, accountability, cost-effectiveness and increased productivity

As a result of that emerging position, the Edcom Unit of the State Department has begun to deploy more of its resources into the development of systems for two basic styles for application of technology: 1) the automated or self-teaching devices, and secondly, teacher managed systems where the technology is heavily integrated with the live teacher and is controlled by the teacher. A learning system such as that must consist of educational goals, behavioral objectives, content, analysis, etc., and implies that we must become part of the total learning-teaching team. The State Education Department is not just going to write a paper; it is going to develop some models. Eventually, regional operations such as BOCES and the universities will be involved in this effort, both through making use of their expertise and resources, as well as by serving in the program as dissemination agents. A mechanism will be set up to insure that financial support is acquired and then sustained.

New designs for inservice educational programs will be developed because the systems approach to education requires the development of new competencies in educational personnel. The Department will plan development of higher education programs for teacher training which will involve much more emphasis on the effective utilization of technology and the systems approach to education.

The McMurrin Report advocates the collaboration of education and industry and so will this SED paper. Too long we've kept the schools isolated from society, generally. The great dynamos of creativity and innovation are located in the private commercial sector of society and here, too, are some of the best minds in educational technology. We must specify our learning needs and objectives and demand media that is guaranteed to accomplish those learning objectives with our kind of learners. Cooperation and widespread sharing of professional expertise is the best road to efficient, cost effective quality education.

Today, the educational communications fields are suffering from an identity crisis, like today's teenager, and this actually happened tonight with one of the men in this room as we looked at the bulletin board outside and saw the different titles that apparently referred to the same type of position. Who am I? Where am I? Where am I going? Educational communications is a challenging and exciting field, but it has been ill-defined. It is constantly growing and changing and we're happy that it is . If you are going to stay with it, you must grow and change, too. The technology is integrally involved with the process of learning and the genuine individualization of learning. Any sharp distinction., then, between research and development in technology on one hand, and research and development in the basics of education on the other, appears to arbitrary. In fact, the very division that I refer to has contributed to the disappointing impact thus far of instructional technology.

The emerging role of the instructional technologist in the total function of technology and the instructional system analysis process is defined in the individual who has a prime responsibility to direct, coordinate, execute and cause the realization of the total instructional design system. The traditional AV person must expand his skills and move into this design and learner management phase and become an instructional technologist or he will cease to exist. The skills, training and background required for the instructional technologist are a far cry from those that we were assigned as the AV men. To meet this new challenge, much study, hard work and expansion of viewpoint is necessary.

The technology that is available to us today or about to be made available to us for education in the very near future will impact on all of us and present greater challenges and opportunities.

The time is right, yet there is a problem in the shortage of dollars; the time may also be wrong. Schools are run by boards of education, superintendents and principals, voters and state education departments. We're all aware of this fact and that the role that I described for you isn't really available just yet. But some of us are betting that if we do make these things work, that I can stand before other audiences other nights, that it will be possible to attend the school boards convention, meet with the superintendents in this State and say, "look at this, it is educationally effective, it is cost effective and you can't afford to be without it." At that point, I think the new role will be extremely saleable. We're going to try to help you succeed in those efforts to a far greater degree than we have so far.

## GENERAL SESSION

# MASS COMMUNICATIONS FROM THE GROUND UP

by John G. Broughton
Associate Commissioner for
Cultural Education
New York State Education Department

Thank you Mr. Siegel, Ladies and Gentlemen. I was a little amused at Norman's introduction at seeing myself as being a top executive of the State Education Department because when we go back to Albany, after what happened in the election yesterday, with the Bond Issue and things of that sort, I'm not sure that we will be there much longer.

I notice in your program that you have exciting titles. I didn't have an exciting title so I had to think one up on the way down this morning. I thought I might call my brief remarks "Mass Communications from the Ground Up" or "How to Make Bricks Without Straw."

There has been no total reorganization of the State Education Department, but I know the ancient story of the "Blind Men of Gotham" and how they looked at different parts of the elephant. Of course, they were most concerned about the part they were touching. There has been reorganization in the area of Educational Communications. From the close cooperation which you have had for many years with the Education Department you know, of course, that there was a Division of Educational Communications. Because it was a new venture for the Education Department, some years ago, it was assigned to the Office of Cultural Education which has been in the past a sort of office of miscellany in the Education Department. This is no longer the case for we are trying to take steps to correct that. The reorganization of the Division of Educational Communications was partly occasioned by that thrust and partly by the fiscal crunch that we found ourselves in. With the cuts made by the Legislature and the Executive budget last May, we found that changes had to be made. We tried to make them in a way which was responsive to the needs and which would accomplish the things that we felt had to be accomplished for education and for educational television about the State. I think the point that I want to make most clearly is that, as a result of these changes, there has been no reduction in the Education Department's commitment to Educational Communications. I know from talking with the Commissioner and Mr. Ambach, the Executive Deputy Commissioner who spoke to you last year at the Visual Literacy Conference, that both are enthusiastic about the present and the potential of Educational Communications, and they will do everything within their power to make the best use of it in the educational structure in New York State.

What happened was this, very simply. The Division of Educational Communications really had two roles in the Education Department. One was a very close involvement in an advisory and service capacity with the structured school system, particularly in elementary and secondary education. The other was a unit dealing largely with production and services to the field as a whole and to other parts of the private sector that could benefit from educational communications. So when the reorganization was made, that part which dealt most directly with elementary and secondary and continuing education was assigned to the overall direction of the Deputy Commissioner for Elementary, Secondary and Continuing Education. Those parts which were obviously related to many continuing and public educational responsibilities that the Department had were left in the Office of Cultural Education.

Perhaps you're not as familiar as I am, and naturally should be, with the role of that office. In addition to Mass Communications, it includes the State Library and the Division of Library Development which cooperates with public library systems all over the State and administers Federal funds for libraries. The office also supports research and academic libraries and, hopefully, as we can expand into that area, institutional libraries. In addition, we have the Office of State History which includes the custody of public records and, since legislation was passed last year, the possible development of an archival program in association with historical associations about the State. The State Science Service, which is the ladder that I came up -- I'm a geologist and am used to dealing with scientists and the scientific media -- is where we have scientific surveys dealing particularly with the health and environmental sciences, anthropological surveys, biological surveys, geological surveys.

We have a State Museum which has been on the top floor of the Education Department since 1912, and some parts of it look it. But we are building a brand new museum as we are building a brand new library in the famous (or notorious) South Mall. This museum will be 4 to 4½ acres in extent -- much larger than the one we have and with a completely different concept -- in which we are going to relate man and his environment in New York State, "Man and Nature in New York State," and show the interplay between them.

Now it's obvious that in all of these areas, particularly museum activities and library activities, that Educational Communications -- particularly Mass Communications -- is a blood brother. This is the type of relationship that we are trying to develop. We have developed task forces that work across the field. Bernarr Cooper, the Chief of our Bureau of Mass Communications, agreed to serve as our liaison person with the group in Higher and Professional Education, that is dealing with the external degree. This is something that in the most highly bureaucratic terms is called the Internal Committee on the External Degree. Obviously, we look to Mass Communications to advise and work with the Library program in the State. And also, we look to it to enhance the museum program when that gets going. So we feel that the reorganization did in no sense threaten the integrity of the total impact of educational communications across New York State; it simply puts different units where they belong. We are still working together, still talking to each other in a feeling of mutual respect and responsibility.

Now to give you a few more details as to what the Bureau of Mass Communications is presently doing. One of our prime responsibilities is the old problem of program acquisition. We have a continuous commitment to work with production materials and various content fields all the way from pre-kindergarten to continuing education. We get these programs, knowing what the needs are for school use, for open circuit broadcasting, for instructional fixed services, and for cable television. I'll have more to say about that later. We get it however we can. We get the best programs we can. With the limited funds at our disposal, we arrange contracts to produce new materials. In some cases, we use those to cooperate with other organizations or institutions that are interested in producing materials. Through the PACT arrangement, a program of acquisition from commercial television, we acquire good materials which can be duplicated for educational purposes. We get Federal money and use it for program acquisition, but this is not hit or miss or helter skelter acquisition of whatever is available. We try to acquire quality material where we can by planning ahead in terms of things that require State monies or Federal monies. We consult with, and get, the approval of subject specialists in the various parts of the Education Department where they have different responsibilities, for example, in Elementary and Secondary Education, dealing with humanities education, social studies, science and a major commitment of the Regents in terms of their high priorities - that is, reading readiness.

In Higher Education we have one professional who has been transferred from his previous assignment in Higher and Professional Education to the Bureau of Mass Communications. His responsibilities are contacts with Higher and Professional Education. Both he and the professional dealing with program acquisition have worked on such matters as programs dealing with drug abuse, narcotics addiction, and consumer health. He is now particularly working on something that you have all heard about, whether you understand it clearly or not, and that is this matter of the external degree. At the expense of elaborating on something that may be completely familiar to many of you, I might explain the difference between the external degree and State University's Empire State College. The external degree, which is not a completely new concept but is one which was advocated by Commissioner Nyquist at his inaugural address about a year ago, is an attempt, in our credential oriented society, to make it possible for anyone to acquire an advanced degree, associate degree or bachelor's degree by whatever means they can as long as they can meet certain standards, as shown by tests which are presently being developed. These standards would then be accepted by the academic community at large, and credits could be exchanged if necessary. The individuals involved would not have to attend any classes; they would work completely by themselves. They could pass a test, if they could do it solely on the basis of their job experience over the years. They could go to college part of the time. They could sit home and watch open circuit broadcasting part of the time. They could take courses in connection with their jobs. Any way by which they could acquire knowledge and the ability to use that knowledge, and prove that they were able to do that, would allow them to accumulate credits toward an external degree which would be granted by the Regents of the University of the State of New York. Now the major difference between that and State University's Empire State College is that in that particular case we would have, I believe, (and I am not certain of the number) approximately twenty learning centers about the State. There you would have a faculty which would not serve primarily as instructors but would serve as advisors and they would guide students who would take courses at other State University branches or who would do individual learning in learning centers. The first one has been established at Saratoga at an old building of Skidmore College. When the proper number of credits were accumulated, this individual would then be granted a degree by the State University of New York.

Of course, there are other individualized learning approaches. The Open University which has been going on for some time in Britain, has been suggested as long as, oh I guess 20 years ago, by professors  Florida State. This just happens to be an idea, the Commissioner said, whose time had come. Probably fiscal constraints and the realization that the cost of education is going up so rapidly has convinced people that this is the thing to do. Those of you who are here, of course, realize the very important impact that the total field of educational communications can make on this type of learning. Now also in connection with the external degree, we are involved in production materials for post-graduate professional development, such as nursing education. The first two programs that the external degree committee is working on include one to develop a test and standards in the area of nursing education to upgrade nurses: RN's who have been out of practice for some time; practical nurses who have acquired skills on their jobs and wish to be qualified as registered nurses; or registered nurses who have a three-year course and don't have a bachelor's degree. All these things are now permitted by the Board of Regents and this can be done by programming for the external degree. We want to be involved in that and we will be. Another one is business administration which would be a particular service to the business community in upgrading of individuals while they were working on the job. So you see that in the total problem of program acquisition, we are guided by the area of specialists, elementary, secondary, continuing, and higher education. The Bureau of Mass Communications has the responsibility in the Education Department for acquiring these, developing them, and making them available through duplication about the State. We don't really know at this stage what effect Chancellor Boyer's proposal will have on putting major emphasis on a vertical connection between secondary education and higher education in the last year of high school, but this probably will be related as well to the external degree.

One other item that we are hoping to move into again is something we had been into in the past. That is the matter of audio tapes. I think we have a library of about 6,000 audio tapes which are not catalogued. I wouldn't want to estimate at this stage, as to how many of these were good audio tapes or up-to-date audio tapes. About a year ago or two years ago, we lost the position of the individual who was responsible for this and so we dropped the program. Now we feel obligated; (this is what I mean by making bricks without straw)--we feel obligated to start this again. Hopefully, at the first opportunity, a catalog will be developed. We are working closely with the State Library which, of course, has a library of talking books in the Library for the Blind. Obviously, audio tape cassettes will probably, in the long haul, be the substitute medium for those. We are trying to pull those programs together because we are not now just in the business of producing programs and producing duplicates of video tapes but audio tapes as well.

Now the latest technology information available to the field probably has been received by most of you or is in the mail or on the way to you, and that is the accessing and uses of the Media Duplication and Distribution Center in Mass Communications for the half-inch format of video recorders. We are about to carry on a two-year experimental program in supplying half-inch tapes to schools and other users. The mailing has gone out together with a catalog of what materials are available. This, of course, opens up added new potential for individualized instruction at the higher education level. Right now there are at least four complete courses available in this format that can be used by any public or private institute in New York State--in most instances, for college level proficiency examination credit and some cases, more specific credit with respect to the external degree. Some of these you may already know. The ones that came out last year with guide books are The Government Story, Communications in Education, Communications and Society, Living French, Beginning Spanish, Man Against His Environment, The Philosophy of Religion, and Dramatic Experience. These are all available now on the 2-inch or 1-inch format, and we are now able to do these on half-inch. This, again, was done without any straw because the equipment required to do this was acquired through the cooperative offices of Ray Graf in the Division of Research and Educational Communications and Bernarr Cooper in the Bureau of Mass Communications. They were able to gain a long term loan of half-inch equipment from manufacturers. We don't want to be put in a position of pushing the use of the equipment of any one manufacturer. When we found that there were as many as 17 companies producing equipment which was compatible, we decided this was the time to move on half-inch tape. So by using the same personnel we had, by using borrowed equipment, and by using raw tape which the schools will send in as they have done before, we hope to be able to provide this new service.

Cable television is something that is moving so fast and so slowly at the same time that you don't really know what to say from one day to another about it. You know that last year the Regents took a position which was based on Department recommendations and recommendations from your organization in support of the concept that a certain percentage -- up to 20%, -- of available channels for cable television should be reserved for educational uses, that there should be a Telecommunications Commission in the State, in which the Education Department could participate, which would advise on uses of cable television in the State, on the granting of franchises and items of that sort. At the same time, at the Governor's request, the Public Service Commission prepared a very lengthy 700 and some page study of cable television and made the very strong recommendation that cable television should be controlled as another public utility. In that whole 700 and some page report, they paid little more than lip service, an extremely brief reference, to any educational uses of cable television. As the legislative session preceded, we found ourselves eyeball to eyeball. I think the educational use of cable television was strengthened because the chairman of the Senate Education Committee, Senator Tom Laverne from Rochester, became personally interested and became the co-sponsor of Assemblyman Kelly's bill, which was identical with the Regent's position. In any case, it turned into a Mexican standoff and the Legislature passed a bill last year to maintain the status quo for another year while the problem was studied still further.

Some of you may have seen that Assemblyman Kelly had a press conference last week and came up with not a completely different bill but a different idea, in which he proposed a Communications Service Commission which would include cable television, and would also take from the Public Service Commission responsibility for regulating telegraph and telephone uses with the exception of person to person calls, rate settings and things of that sort. We just don't know, at this stage, what this means politically. All I can say at this stage is that Assemblyman Kelly has not retreated from the position that he took last year as to the potential value of cable television for educational purposes. There is nothing in his new proposals which reduces the scope of cable television as a delivery system, as an originating point or development of new programming. It is an interrelated process to tie in with ITFS and open circuit broadcasting stations.

Speaking of open circuit broadcasting stations reminds me of one other item that I dropped between the cracks. That is a 3 million dollar item which is a little bit too much to drop between the cracks for this year. The only item in the 1971-72 Education Department Budget that I am aware of, which was increased both in the Executive Budget and was maintained after the legislative cuts, was the direct State support of the ETV Councils about the State. This was increased by roughly 1½ million dollars over what it had been before, 1.6 million, to be exact. But the wording of the enabling legislation for this particular budget indicated that the support should be up to one third of actual operating expenses as determined by regulations set up by the Commissioner of Education. So this year when we finally reached agreement, after a little bit of hemming and hawing, we found that, on the basis of the projected budget of the ETV Councils, that the 3 million dollars, the sum allowed, was insufficient to support all of the ETV Councils about the State to the level of one third of their actual operating budget. Through agreement among the Councils and with the Education Department's approval, we decided that a fair way to do it was to divide it approximately 50-50 between New York City and Upstate. It turned out that the Upstate Councils got half the money and this came very close to, if not exactly, one third of their operating budget, whereas Channel 13 in New York City, because it has such a large budget resulting from Federal support and private grants, received considerably less than one-third of their support, but they did get as much as all of the Upstate stations combined.

We hope that during the coming year the ETV Councils will feel their responsibility, and they assure us that they do feel this responsibility, as Regent's chartered educational institutions, to produce programs, either individually or cooperatively, which can be used not only locally on such things as drug abuse, but on a statewide basis exchange from one council to another and thus will be responsive to the Regents main priorities. If an educational TV Council is not willing to meet what the State's top educational commission considers the highest educational priorities, it would be a difficult and sad situation, and I don't think it is one that we can anticipate. I think that at the present time the Councils are prepared to contribute their part towards programming that will be of statewide value.

Now in talking about Mass Communications "from the ground up" I meant literally that. Some of the cable television cables will not only be strung on poles but will be underground. Right now what we are talking about is getting involved, through the Education Department, with the 1975 launch of a satellite, an applied technology satelitte, which would provide services to the 48 conterminous United States and for which there would be one or more channels assigned for educational purposes. We plan, in cooperation with NASA, HEW, probably the State University, and perhaps some other institution like the University of California or some other major institution across the country, to present proposals for NASA's consideration as to how these educational channels might be used. If there are signals going out by satellite and cable television comes of age, as I expect it will as soon as the legislative jam is broken, then of course, you have infinite possibilities for any connection between the satellite and cable television, open circuit broadcasting, ITFS, all of the other means of communications that we now have and that the State of New York is ready to recognize.

I think having gone from ground level to about 30,000 miles up, it is a good time to stop. Thnak you very much for listening to me so patiently.

# MODELS OF CHANGE

by Doug Eliuk
Media Consultant
National Film Board of Canada
New York, New York

Artists have traditionally explored beyond the accepted realm of reality, moving close to or beyond the dividing line between the rational and nonrational--between sanity and madness. With luck, they retrieve insights that probe the twilight zone of the imagination and provide us with clues about the changing environment or provide us with models of change.

> People like Fellini, Joyce, Picasso, Norman McLaren, and so on, create superb models to express their quite ordinary experiences. Therein lies their genius. All of us could say what Shakespeare said--if we had his control of the medium. His medium is his message--not his gossip about love, death, envy, power. All of us can gossip.

Hence media study, or screen education, is a probe into the structures of models--a study of the environment of experience. Since probing experience is experience, the term is beautifully redundant.

To those of us involved in the NFB screen study program, the task of screen education, or media education in achieving cultural literacy, is to enable students to uncover the operating principles of screen language--social, esthetic, psychological, historical, anthropoligical, or what you will--leaping over traditional subject barriers. This takes film from the idea of art, or film as an adjunct to literature, or as an audio-visual recording device, to the realm of awareness.

One important effect of this is to require all of us to become participants in creative expression rather than spectators of the finished work of specialists. Instead of matching our experience to a work of imagination, we have experience by interaction with a work of imagination. The "open" grid produces clues but requires completion. In this sense we all become artists.

But if in screen education we take selected films and examine them as behavior and respond with appropriate behavior, that's one thing. That is one level of understanding. It's like tagging along behind a guide in an art gallery articulating oohs and ahs where they best fit the occasion. If, on the other hand, we want to think of media as models of experience, we will respond with models of experience. Many even initiate models of experiences. That's an important difference.

Once media are studied in terms of experience, the film-maker is not our specialist master, demanding his due, free to work on our experience in order to control our behavior. He is our partner. And the partnership we enter into is one which enables us to organize patterns of experience together, to make meaningful models of our own experiences.

Media of all sorts effectively control experience. Education legally exerts compulsory control over the experience of children. Such extraordinary power carries with it the responsibility to make every opportunity available to students to regain control of their own experience. To make them passive consumers is easy; to make them willing partners in the educational enterprise, sharing control, is difficult. If the forces of control in their environment are manipulated without their knowledge, they have no real choices. They must read environments in the light of experience before they can exercise choice. Precisely this ability to read technological environments, including their immediate education environment itself, is what I understand by the phrase "learning how to learn"-- the supreme gift of education.

Film creates environments. Film, by its nature, shapes what it creates. Film affects the behavior of people--especially the behavior of film-makers. All the rest of us can do is talk or write about films--that's our behavior. Or we would stop studying the behavior of film-makers and go off on film making sprees of our own. Some film-makers regard talking about films as pretty esoteric behavior. Writing about films especially their films, is akin to impertinence. The film's the thing. Expressing everything there is to be expressed, film is followed by an awesome sabbath. This is film as behavior.

Film also organizes experience. It organizes the film-maker's experience and the audience's experience. On the level of experience there is no privileged position for the film-maker--and no inferior position for the audience. Though the quality of behavior may be judged and measured by other people, experience is judged only by ourselves.

Media, including the medium of mass education, operate through experiential models. This is because no language in film or any other medium has yet succeeded in communicating one person's experience to another -- totally. Unless love-making is the rare exception that proves the rule: experiences of one person are conveyed to another in models or structural transformations of gestures, speech, film and so forth. Unable to share experience we share behavior. Paradise has been invented as a place where such limitations dissolve and a mystic oneness overcomes everyone with oceanic feeling. But the, paradise, too, is a model.

Thus the film may still be the thing, as it is to advocates of the film appreciation school. But people are not things. We do not have to behave like film-makers, we do have to experience in meaningful ways, and, like film-makers, find ways of editing experience, reducing the rushes of chaos to patterns. Patterns are found in words, images, gestures, and so forth.

An overlooked model of change is the screen itself. Small or big, reflecting or scanning, if you think of the screen as an environment to be shaped by a selection of images, then the screen is a microcosm, surely, of any environment shaped by a selection of experiences. Forces working in one environment should be visible in the others. In fact these forces will probably be easier to perceive on the screen than in the environment at large. That is because the screen filters and defines; it does so by suggesting a frame or boundary. It is this filtering capacity of the screen that makes it a good model of change.

When the NFB screen study program was organized five years ago, an environmental approach to film was very suspect. It was especially suspect among film buffs who felt that a wider context would somehow adulterate a film's unique properties. It was anathema to those academics who had not read McLuhan very carefully; for fear of having to take him seriously they turned him into an academic joke. Meanwhile underground film-makers and a few overground film-makers, with or without the McLuhan influence, were treating the screen as an environmental probe. Rock musicians were creating environments which reached a kind of apotheosis in the Woodstock rock apocalypse. Very soon environment became an in-word with everyone.

Of course, there was never any thought in our minds that the screen as environment was the only approach to media study. But it was a natural evolution for an organization like NFB which had been set up with the express purpose of capturing and interpreting the Canadian environment to Canadians and to others. The documentary approach was an environmental approach. According to John Grierson the documentary film-maker would generate "a creative interpretation of actuality".

By the end of the fifties, however, actuality lay under a proliferating heap of data. With so many truths to choose from, who could claim that his truth was more actual than any other? These doubts were given expression in Antonioni's BLOW UP. As the boundaries of actuality expanded, the scale of actual probabilities ran riot in a geometric progression till they pretty well matched the chaos out of which they had been painstakingly culled in the first place. In other words, actuality and abstraction often fused in a psychedelic blur.

From this point on, films of importance either toyed with the probabilities inherent in the environment, like Linday Anderson's IF...among others, or sought a personal truth that would restore meaning to the environment. Bergman's PERSONA is an example of this search. The NFB documentary had been a third-person film, often overlaid with a strident commentary from Jove. But in the sixties NFB film became increasingly first-person. LONELY BOY, a story of singer Paul Anka, started the swing towards a subjective, persoanl interpretation of actuality. Soon it was difficult, outside pedantic classroom films or sponsored work, to hear the tones of Jove on soundtracks or to see images that claimed special connections with cosmic truth. And educators made it clear to anyone willing to listen that education was also becoming a first-person enterprise. Those educators who hesitated were reminded by students that third-person scholarship was great for an ego trip, but not much use in the invention of a plurality of human lifestyles. In fact, students began exploring their own perception of actuality with their own cameras. For them the screen was an expression of change; they discovered that chaos could be ordered in fresh ways. The effect of this development should be at least as great as the unchaining of manuscripts.

So five years later, a dozen media study institutes later, dozens of workshops, a score of published articles later, we do not regret our initial hunch: that the screen is a model of change, therefore our approach to screen study should be environmental.

Our three-week and six-week institutes introduced us to hundreds of leading educators across Canada. Many of them worked with us as colleagues in a common endeavor, strangers, who later became good friends. Without them there would be no program. Many of them have organized programs of their own that reach hundreds in some cases, hundreds of thousands in other cases. For us it has been a rich five years, amply justified in the results.

I am glad that we did not get tempted into meeting the demands of those who asked for a grammar of film or for courses in film to support languishing literature courses. It would be sad to think that anyone's time should be pawned in learning the formal grammar of film language. The feeling students have for themselves in relation to their environment will be sought in moving images; if they have to break all the old rules to express it, or invent new rules, shocking the old guard, that is a risk they must take. Some of the most exciting films I have seen in recent years were made by eight year olds and ten year olds. They wouldn't win a prize at a festival but they win your heart. That is about as much as anyone can ask of film.

Both Dr. Peters in Teaching About the Film (1961) and Repath in Mass Media and You (1966) speak of the movie image as a reflection which they call the virtual image of reality. Repath: "The real you and the virtual you in the mirror are identical, except for one major difference: you cannot touch your virtual image. This is the reality of the movie world--it cannot be touched, only experienced."

I should like students to touch their virtual image, to outline it with soap on the bathroom mirror. They will discover that it is about half the size that it appears to be. The "real you" and the "virtual you" are not identical at all. A man photographed at forty feet from a camera lens will appear sixteen times smaller, whereas a man seen by the eye at the same distance will appear about four times smaller. But man makes psychological allowances for rapid shifts in scale that no camera can make. It is precisely a knowledge of psychological modifications that enables us to appreciate changes in perception from one age to another and from one culture to another. To be aware of changing perceptual habits is the beginning of aesthetics--whereas to think of film as a mirror of experience is an-aesthetic. In screen education many studies of perception may be undertaken to create simple models of experience.

I would like to close with a sort of bedtime story by showing you a film called CAROUSEL. It is a film I have used in seminars on drugs where parents and their children were present. For me it is one poetic bridge which both generations could share. Though the drug culture has very little to do with CAROUSEL, nevertheless the screen revealed an aesthetic that might have analogies in the entire media-drug milieu. Later on, younger members related their own drug experiences while adults sat on the edge of their chairs trying hard to establish the same measure of rapport they shared with CAROUSEL. Pleasant dreams.

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Since I am not constrained by the same daily reality that confronts teachers with the established limitations of educational practice, I try to probe a little further. In probing beyond established boundaries, I hope to jar the daily reality out of kilter. On another level, I suppose a Picasso painting does the same thing - illuminating in the process, enticing possibilities, uncovering richer ways of relating to our surroundings. It is this same principle of knocking the familiar a little out of kilter that I feel characterizes a rewarding exploration of media environments. Needless to say, I have no objective standards on which to base my judgments and I cannot help introducing my own bias of good and bad, dull and ingenious. At any rate, I feel that learning cannot take place as long as a child is in a one-to-one relationship with his environment. Though his environment surrounds him in moving images, exciting his sensibilities in any number of ways, inducing in him countless stock reactions and stereotype predispositions, this is not learning in any human sense. It is conditioning. Learning liberates him from unconscious or subliminal influences of the media environment. Learning equips him with conscious structuring devices, control, and an expanding range of choices. The principle of unbalancing the ordinary in search for the extraordinary is strongly linked with a search for simple relationships, process, models, and eventually, at a more complex level, operating structures.

# # #

The Strathcona Project in downtown Vancouver was organized by Doug Eliuk of NFB's Vancouver office. Most of the activities took place in the auditorium of Strathcona School. A large and rather stark room with a curtained stage at one end, it was transformed utterly when a geodesic dome on loan from the Vancouver Art Gallery was erected inside it. It was a prescient hint of things to come.

The Project involved using media to provide children from new immigrant families, one-parent families in the Strathcona area with an opportunity to develop language skills, explore their immediate community as well as the greater Vancouver area and generally bring them out of withdrawal tendencies which often result from their social and economic situation.

Children used instamatic slide cameras to create slide essays on their local area, including subjects such as business and industry, houses, people and the neighborhood generally.

Children used VTR to interview each other, workers and merchants, and to document a variety of activities in which they were engaged during July. This was one of the most useful implementations of VTR in that it helped free the children from inhibitions in asking questions and discussing things generally.

The children used Super 8mm cameras to document the activities of the project and as a way of probing their environment in a visually articulate way. Super 8 cameras were also used in the playground while the children were on the swings or the merry-go-round, as well as in games of visual tag and in an adaptation of the children's game "statues".

Films were screened daily to dozens of groups of between eight to ten children. The children retold the stories after the screenings, in some cases inventing their own music and sound effects to accompany their interpretation. With a film like WALKING, they were able to engage in a sort of play-discussion of how different kinds of people walk, run or move. With a film like NOTES ON A TRIANGLE, the image was projected onto a huge screen which reached the floor, and the children choreographed movements that related to the patterns that appeared on the screen, pretending that, with their gestures they were moving the geometric shapes. CHAIRY TALE prompted a discussion on what it would be like to be an inanimate object.

The project got the attention and support of the community when the children staged parades through Chinatown. One particularly effective event was the painting of a number of hugh murals on plastic sheeting. A hundred or so kids each holding onto the murals, paraded through the streets, preceded by a paper mache dragon and musicians.

All these things were documented with Super 8mm film and VTR and presented at Open House events and shown to Vancouver School Board officials. Some of the material was also on display for a two-week period in the Vancouver Art Gallery. The Gallery was so impressed with the film and other materials that they held a more comprehensive exhibition in October. Everyone, including the press, who has seen the material done by the children, has responded with enthusiasm. The Vancouver School Board will probably use some of the film and video-tapes to circulate to other schools as an example of what can be done with film and other media. Another interesting result is that many visitors, including child psychologists, child specialists, community program directors, and so on, expressed their enthusiasm for the project and indicated that they would be able to use many of the project ideas in their own work.

# # #

## FURTHER NOTES ON THE STRATHCONA PROJECT

The geodesic dome made of aluminum poles was assembled in the auditorium of Strathcona School. It was meant to be a meeting place, an information and equipment center as well as be a focal point for the project. It gave the project a special kind of identity and transformed an impersonal school auditorium into a unique and exciting environment. The dome was decorated by the children with paintings, mobiles, constructions, craft objects, etc. Six areas of the dome were covered with draft paper and used as screens for projecting the films and slides done by the children. The films and slides were run continuously so that the children could see what everyone had done from day to day. The floor of the dome was covered with tumbling mats so that the children could sit in informal groups.

1" and ½" Sony video equipment was set up in the dome to be operated and used by the groups. Children learned to use the video camera and playback equipment within a matter of minutes and took turns operating the camera, interviewing, or participating in some other way. The stationary video equipment was used during story telling sessions, role-playing, drama and music sessions, interview situations and for playback and discussions.

Simple animation stands for super 8mm cameras were set up within the dome and these were in constant use. An "infinity" box (a 4½ foot square box with four sides of its interior lined with plate glass mirrors opened on one end for viewing and covered at the other open end with drafting paper as a projecting surface) was set up and also in constant use. It never failed to fascinate, especially when the children's own works were projected into it.

Small screening areas outside the dome were set up for those who wanted to view 16mm films. They could do this individually or as a group. A good stereo unit was set up and children and group leaders brought records that they thought others would enjoy. Often there was as much activity going on outside the dome as there was inside. We tried not to have more than five or six groups working at any one time inside the dome. The others would be out filming or on a field trip or engaged in some other indoor or outdoor activity. All things considered the schedule seemed to work well.

We started most children working on hand drawn slides and film and later gave them instamatic and single lens reflex cameras. (Several had their own cameras or borrowed them.) We allowed them to shoot whatever they wished, with predictable results: there was a lot of mugging, innumerable long shots and generally nothing very distinguished. We then suggested a few simple assignments: eg., with a roll of twenty exposures the children were asked to walk around the neighborhood and take ten shots of what they thought was order and ten of what they considered disorder. Other groups were asked to go around the area and take shots of piles (piles of lumber, garbage, chains, tires, bricks). Other ideas suggested were openings and closings, ugly and beautiful, textures, street furniture, and so on.

The following day when the photos were developed the separate groups viewed and discussed their work. Among other things, they discovered that they could not always agree on what was order and what was disorder. Over the weeks, many of the children developed very sophisticated ordering concepts and learned how they could convey ideas by juxtaposing pictures from random slides given to them. Some developed poems or story ideas using a sequence of slides. They also discovered that they could manipulate slides to convey impressions that were not entirely honest. By not showing certain things and by concentrating only on certain objects, i.e., only attractive things or only ugly things, they could convey with pictures the very opposite of the actual situation. Some groups worked as teams using a variety of equipment to document some process of activity near their own community.

As with the 35mm slide cameras, very little direction was given when the super 8mm box cameras were handed out. When the children were accustomed to handling the equipment and lost interest in mugging at the camera, simple activities were suggested to incorporate cameras into their games. Some groups played an adaptation of the "Statues" games. Others taped the camera to the operate position and then played handball with the camera. Others held cameras while rolling down hills, climbing trees and swinging from the branches by their feet. Others played leapfrog, using the camera from every conceivable position to document the activity. Others shot from swings, carousels, and in effect created a catalog of shots showing different aspects of motion and speed.

Two cameras with single frame capabilities were set up on simple animation stands and the children created all sorts of collage and cut-out films. Some placed abstract reproductions on record turntables so that the images spun around. Other children animated colored blocks and plasticene forms. These were only a few of the activities involving film.

. Polaroid cameras were used in an adaptation of Blind Man's Bluff. Several children were blindfolded, given Polaroid cameras and told to move around slowly until they bumped into others who were rolling around on the floor trying to avoid the camera holders. As soon as someone with a camera bumped into a person on the floor they were to take a shot of where they thought that person was. One of the group leaders would pull the picture and the child would once more move around within the game area. Even the most retiring children entered into spontaneous discussion after the photos were placed in front of them and they were asked to guess who the person was in the photo and why they thought so. What the children shot were fragments of a shoe, a dress, or head. The shots the children took incidentally were far more dynamic than anything else done in stills.

There was virtually a continuous showing of short and medium length films. Some films were used for discussion, "role-playing sessions", i.e., CHAIRY TALE. Other films were shown silent so that the children could invent their own stories and when the film was reshown they could narrate stories, with sound effects and music played on instruments they had made themselves. Films such as NOTES ON A TRIANGLE were used in dance sessions where children would pretend they were moving the geometric shapes on the screen.

½" Sony portopack video units were used by many of the groups to interview people on the streets and shopkeepers in the neighborhood. Other groups travelled around in a car with their portopacks and did on-the-spot reports about their own neighborhood, while others did short documentaries on some special areas within the city such as industrial or recreational areas.

# IMAGE-INATION CINEMA AS AN ART FORM

by Katherine King
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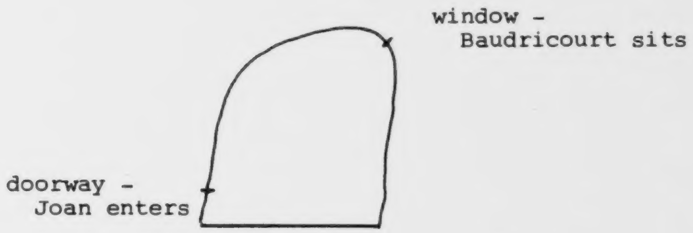
"Imagination gives to airy nothing a local habitation and a name." Each art form has its own powers and limitations which the artist explores and exploits to create his personal statement on our human condition. Drama, novel, short story - these forms we know well. Moving pictures and television productions we have experienced more often than any of the other forms, yet we sometimes find ourselves asking an old question: "When they made a film of ____________________, why did they change it?" The opening statement, "each art form has its own powers and limitations" is the answer. Let's do our own exploring of some distinctions between art forms - and the manner in which the imagination operates in each.

## Section I

### Time/Space in Drama and Film

In Shaw's "Saint Joan," a scene occurs in which Robert de Baudricourt, captain of the local army, is seated in a sunny stone chamber in the turret of the castle. Baudricourt sits facing the window which overlooks the courtyard and descends to it. Joan, the peasant patriot, is announced. She has to make her way across the thirty feet which separate her from Baudricourt. Meanwhile the steward whispers to Baudricourt:

"She wants to go and be a soldier herself. She wants you to give her soldier's clothes. Armor, sir! And a sword! Actually!"



### AUDIENCE PARTICIPATION

When the director blocks the action in this scene, he must account for the actual time it takes Joan to walk across thirty feet of actual physical space.

- Block this passage, or any similar stage situation requiring one character to cross the stage.
- The director wants the pacing of his play to keep a certain tempo. How can he make use of the time it takes this character to cross the stage to enhance the emotion he wishes the scene to evoke?

Try to figure out how you would handle each situation on stage, then for moving pictures or TV. Jot down your ideas.

- The director wants Baudricourt to make Joan feel stupid, useless, a day-dreamer.

| stage | Film/TV |
|---|---|

- The director wants to indicate Joan's life as a shepherdess in Domremy prior to her "call" to lead the French army to victory.

| stage | Film/TV |
|---|---|

- The director would like to have Baudricourt seated actually looking out the window, his back to the audience.

stage Film/TV

- The control of time and space in film has led to one definition: "the art of the film is essentially the art of the moving image in discontinuous time and space." The early moving pictures, chiefly comedies, soon discovered "the chase." How does the chase exemplify the definition?

- In the suggested definition one word indicates a major difference between the two art forms. Explain to yourself the reasons for your choice.

## Section II

## VERBAL IMAGINATION

Imagination: The creative artist seeks to engage the imagination of the beholder. Imagination, personal involvement in the art work, collaborates with the artist in a way indefinable yet real.

Setting:

In verbal literature such as short stories, the setting often evokes atmosphere, a sense of place and time. Imagination, says Shakespeare, gives "to airy nothing a local habitation and a name." Shirley Jackson opens her story "The Lottery":

> "The morning of June 27th was clear and sunny, with the fresh warmth of a full summer day; the flowers were blooming profusely and the grass was richly green. The people of the village began to gather in the square, between the post office and the bank, around ten o'clock; in some towns there were so many people that the lottery took two days and had to be started on June 26th, but in the village, where there were only about two hundred people, the whole lottery took less than two hours, so it could begin at ten o'clock in the morning and still be through in time to allow the villagers to get home for noon dinner."

(Shirley Jackson, New Yorker Magazine, 1948, reprinted in Man and His Measure, pp. 323-330, Harcourt, Brace and World, Inc., 1964)

AUDIENCE PARTICIPATION

Shirley Jackson calls upon the reader's imagination to collaborate with her in setting both time and place. As you ask yourselves these questions, jot down your answers:

- In what year is the opening set?

- What kinds of clothing are worn? e.g. women's hats, bonnets?

- The author states precisely: "...in some towns there were so many people, the lottery took two days and had to be started on June 26th." Where are the other towns located?

- The entire passage from "The Lottery" proceeds in a linear fashion, detail by detail, to set the tone for a story which could develop in a variety of directions. What does your imagination do?

- If this story were being filmed, what effect would this moving visualization have on all answers to questions 1 and 2?

- How would the visual answer to question 3 be handled?

- Can film make use of the same detail by detail approach used by visual literature?

- Interior/exterior reality:

Conrad Aiken's "Silent Snow, Secret Snow" opens:

> Just why it should have happened, or why it should have happened just when it did, he could not, of course, possibly have said; nor perhaps would it even have occurred to him to ask. The thing was above all a secret, something to be preciously concealed from Mother and Father; and to that very fact it owed an enormous part of its deliciousness. It was like a peculiarly beautiful trinket to be carried unmentioned in one's trouser pocket - a rare stamp, an old coin, a few tiny gold links found trodden out of shape on the path in the park, a pebble of carnelian,[1] a seashell distinguishable from all others by an unusual spot or stripe - and, as if it were any one of these, he carried around with him everywhere a warm and persistent and increasingly beautiful sense of possession. Nor was it only a sense of possession - it was also a sense of protection. It was as if, in some delightful way, his secret gave him a retreat into heavenly seclusion. This was almost the first thing he had noticed about it - apart from the oddness of the thing itself - and it was this that now again, for the fiftieth time, occurred to him, as he sat in the little schoolroom. It was the half-hour for geography. Miss Buell was revolving with one finger, slowly, a huge terrestrial globe which had been placed on her desk. The green and yellow continents passed and repassed, and now the little girl in front of him, Deirdre, who had a funny little constellation of freckles on the back of her neck, exactly like the Big Dipper, was standing up and telling Miss Buell that the equator was the line that ran round the middle.
>
> Miss Buell's face, which was old and grayish and kindly, with gray stiff curls beside the cheeks, and eyes that swam very brightly, like little minnows, behind thick glasses, wrinkled itself into a complication of amusements.
>
> "Ah! I see. The earth is wearing a belt, or a sash. Or someone drew a line round it!"
>
> "Oh no - not that - I mean -"
>
> In the general laughter, he did not share, or only a very little. He was thinking about the Arctic and Antarctic regions, which of course, on the globe, were white. Miss Buell was now telling them about the tropics, the jungles, the steamy heat of equatorial swamps, where the birds and butterflies, and even the snakes, were like living jewels. As he listened to these things, he was already, with a pleasant sense of half-effort, putting his secret between himself and the words. Was it really an effort at all? For effort implied something voluntary, and perhaps even something one did not especially want; whereas this was distinctly pleasant, and came almost of its own accord. All he needed to do was to think of that morning, the first one, and then of all the others -
>
> But it was all so absurdly simple! It had amounted to so little. It was nothing, just an idea - and just why it should have become so wonderful, so permanent, was a mystery - a very pleasant one, to be sure, but also, in an amusing way, foolish. However, without ceasing to listen to Miss Buell, who had now moved up to the north temperate zones, he deliberately invited his memory of the first morning. It was only a moment or two after he had waked up - or perhaps the moment itself. But was there, to be exact, an exact moment? Was one awake at all at once? or was it gradual? Anyway, it was after he had stretched a lazy hand up toward the headrail, and yawned, and then relaxed again among his warm covers, all the more grateful on a December morning, that the thing had happened. Suddenly, for no reason, he had thought of the postman, he remembered the postman. Perhaps there was nothing so odd in that. After all, he heard the postman almost every morning in his life - his heavy boots could be heard clumping round the corner at the top of the little cobbled hillstreet, and then, progressively nearer, progressively louder, the double knock at each door, the crossings and recrossings of the street, till finally the clumsy steps came stumbling across to the very door, and the tremendous knock came which shook the house itself.
>
> (Miss Buell was saying, "Vast wheatgrowing areas in North America and Siberia."

[1] carnelian: a reddish kind of quartz.

Deidre had for the moment placed her left hand across the back of her neck.)

But on this particular morning, the first morning, as he lay there with his eyes closed, he had for some reason waited for the postman.".......

(Miss Buell was saying, "Land of perpetual snow.")

AUDIENCE PARTICIPATION

- Various kinds of learnings are going on in the classroom. How would you visualize for moving picture or TV camera, the learning taking place in the nameless narrator?
- "The medium in which film is most at home: "the external surfaces of reality." How does the film artist try to widen the boundaries of his medium?
- If Tolstoy's novel War and Peace were being discussed, what effect would the reader's imagination, education and experience have on his version of the setting, costume, manners, etc.
- If the film War and Peace were seen by a group would vividness of imagination, levels of education and experience make the same differences as it would if the same individuals read the novel?
- "We cannot imagine that which we see."

Discuss in the light of your answer to questions 8 and 9, for insight into the nature of the kind of imagination a moving picture can involve.

## Section III

## Metaphor: Literature and Film

Figurative language offers the artist a condensed, powerful image which juxtaposes two unlike elements in a novel relationship. Eliot's "The Love Song of J. Alfred Prufrock" opens with:

> The yellow fog that rubs its back upon the windowpanes,
> The yellow smoke that rubs its muzzle on the windowpanes
> Licked its tongue into the corners of the evening,
> Lingered upon the pools that stand in drains,
> Let fall upon its back the soot that falls from chimneys,
> Slipped by the terrace, made a sudden leap,
> And seeing that it was a soft October night,
> Curled once about the house, and fell asleep.

AUDIENCE PARTICIPATION

We might ask ourselves what we know about fog that we did not know before. A mysterious, evocative mode of knowing fog has set in play an ancient wisdom which does not disregard science but in some way transcends it.

- How could this figure be incorporated into film with the same precise yet evocative force?
- Hopkins writes of his sense of isolation: "dead letters sent to dearest him who lives alas! away.

  Visualize this metaphor transformed into its moving picture counterpart.
- What do these two examples illustrate concerning the power of verbal literature? The limits of visual moving art forms?

## Section IV

## The Moving Image

In the opening sequences of "Alfie" we see him wandering down a dimly lit street. A mongrel sniffs and pokes his way along the same street. Both "Prufrock" and "Alfie" ask questions about the values of human life. Yet, between the hound evoked by Eliot and the cur in "Alfie" gaps a very real difference.

In the film, "Darling" the success girl Diana Scott lives in a world of glass. As she rises to greater financial heights, she shifts from apartment to richer aprartment, a bowl of goldfish accompany her. The obvious metaphors of glass and goldfish in the story of a public person effectively underscore the director's purposes. In the closing scenes, as Diana and her homosexual lover dawdle over a meal of exotic delicacies, idly the pair drop tidbits into the bowl. Glutte, the goldfish die.

The cur in "Alfie," the goldfish in "Darling" illustrate a film mode of metaphor.

Film: HOUSE as exploring unique possibilities of moving media in demonstrating visual image-ination.

1. Imagination in drama, short story, poetry is based on the transference of characteristics or modes of action - the basic image is a remembered one given a new significance within a new context. Verbal arts start in the abstract word, move toward concrete reality.

2. In image-ination the film image is an objective reality, a moving object or symbol. It cannot be merely remembered, because it is actually operating in a series of images. We cannot remember that which are seeing.

    a. an isolated film image testifies to the reality it reflects; a single film images always shows but does not necessarily signify. Significant film images suppose unfolding visual relationships.

    b. what the image will signify rests with the director.

    c. the distance between the image shown and the meaning that the image is to signify is test of director's art.

    d. by its physical presence, film metaphors operate with an energy beyond that of their more static literary counterparts.

# READING TELEVISION

by Lloyd G. Howe
Norwod-Norfolk

"Television is one of the most powerful forces man has ever unleashed upon himself. The quality of human life may depend enormously upon efforts to comprehend and control that force."

These opening sentences from Nicholas Johnson's book, HOW TO TALK BACK TO YOUR TELEVISION SET, express very compactly the basic axiom upon which this paper is based. It is not within the scope of this essay to denote and consider the multiple factors of television which make the above stated axiom self-evident. This disertation is devoted to a very brief consideration of methods whereby we, as educational technologists, can enhance our comprehension of television and how we might apply such knowledge to benefit our students.

Watching television is not reading television. I have great faith in the general public's ability to recognize, on a conscious level, the childishness of the television's pictures and sounds. However, the conscious level is not our main concern.

In, UNDERSTANDING MEDIA, Marshall McLuhan denotes..."...the student of media, like the psychiatrist, gets more data from his informants than they themselves have perceived. Everybody experiences far more than he understands. Yet it is experience, rather than understandings, that influences behavior, especially in collective matters of media and technology, where the individual is almost inevitably unaware of their effect upon him."

The ability to comprehend and hopefully defend against some of the unconscious effects of television's moving images and changing noises is the reading of television I would like you to consider.

At first glance this may seem impossible, for how can we determine which of our actions are the result of conscious thoughts, and which result from unconscious thoughts. More simply stated, how can we consider our unconscious concepts, for we cannot be aware of them by definition. Rather than become involved in a very lengthy philosophical and psychological discourse related to this question, I simply propose the following procedures.

I agree, in part, with Mr. McLuhan when he says, that experience, rather than understanding, is the prime cause for changes in behavior. However, I would add that experience alone usually results in random, even chaotic behavior while the understanding of experience may allow for more organized and constructive behavior. I, as you, must subscribe to this concept, or our attempts to use pedagogical techniques to assist behavioral changes designed to benefit mankind are a mere shame, and the greatest hoax we have ever perpetrated on the public and ourselves.

Our first step, should be to consider the data the media experts have attempted to catalogue as unconscious reactions to television. Secondly we should attempt to verify these listings and, if possible, add to them by personal research. I am simply suggesting that we may become aware of our unconscious reactions to television if we scientifically observe the reactions of others; then pause to remember that although we are indeed separate and different individual; as a part of a given society, we must hold some traits common to that society.

At this point it's appropriate to define more carefully the terms "experience" and "understanding", as used herein. "Experience" denotes the physical body functions, a greater flow of adrenalin or of hormones. Basically, "experience" is the body functions which I call emotions. "Understanding" denotes the abstract mental processes totally divorced from the influences of the body's tissue needs. However, these are at best only semantical definitions. It is certainly impossible to isolate the mental processes to control the body differentiates a man from an animal.

You may question why I stress that we, as educational technologists, must become reasonably aware of the deeper effects of television on the general public and more especially upon ourselves. I can only reply; we must understand our own experiences and gain some measure of reasonable control of ourselves before we can attempt to assist students toward their self understanding and control. We should not be surprised that we have often failed to convince students that smoking is dangerous to their health when we cancel our teaching by continuing to smoke ourselves.

How can we prepare? Our personal comprehension of television and it's effects on the viewer is the first step toward an instructional program of reading television. As already implied, the first step for us, the instructors, is not the reading of television, but rather, reading about television. Again a quote from Marshall McLuhan is most appropriate,...

"To resist TV...one must acquire the antidote of related media like print."

"Phonetic writing, alone, has the power of separating and fragmenting the senses and of sloughing off the semantic complexities. The TV image reverses this literate process of analytic fragmentation of sensory life."

In support of this line of thought, I have included as an appendix to this essay a brief reading list.

Assuming we are capable of absorbing most of the data media experts offer, the next step would be to approach television armed with this new information, and attempt to actually analyze television itself. This perhaps is the most difficult step, for we must not suspend disbelief. For example, let's consider the program series, "All In The Family".

The content of this series is simply a montage of visual/verbal representations of a father, mother, daughter, and son-in-law whose interactions appear somewhat humorous. Let's pause to analyze one of these fantasy characters. Even a cursory examination easily demonstrates that the father, Archie, by use of gestures and almost every word he utters displays the characteristics of an enormously ignorant bigot, with an unlimited supply of personal prejudices. Yet, this same fantasy image also glows very brightly with the characteristics of charm and thus commands great appeal.

At the conscious level we may simply laugh at Archie and find him generally amusing. The question is, how do we react at the unconscious level? Do we laugh because we hold some of these same prejudices and our laughing keeps us from admitting them to ourselves and helps us hide them from others? Do we find this fantasy image of Archie soothing because our guilt feelings related to personal ignorance and prejudice is also thereby soothed?

Regarding the dramatic experience, all successful playwrights and actors know the audience must experience the play and the character roles at the gut level. The suspension of disbelief is paramount to full acceptance of the play and it's fantasy images.

McLuhan claims, and I agree,...

"The TV Viewer is in just that role at all times. He is a submarine. (He is submerged unconsciously in the fantasy world of television.) He is bombarded by atoms that reveal the outside as inside in an endless adventure amidst blurred images and mysterious contours."

One of the most vivid examples of the tactile quality of the TV image occurs in closed-circuit instruction in surgery. Medical students reported that they seemed not to be watching an operation, but performing it. They felt they were holding the scalpel.

How can we view television and defend against becoming submerged unconsciously? I submit that no sure defense is possible. However, armed with the awareness that television does effect the unconscious, we may be able to supress our unconscious to some extent by increased conscious analysis. We must be able to freeze the images and sounds and fragment them to observe which elements of the television gestalt have the greatest unconscious effect, and to observe which presentational sequences give these elements their effectiveness. Television technology itself, has provided us with the scalpel for it's disection, namely the video tape recorder. By using video tape we can capture the rapidly changing elements of a television happening and control the speed of playback to allow ourselves time to analyze these elements and their sequencing.

When we have developed our personal skills in identifying some of the factors of television which effect the viewer on an unconscious level and can correlate these factors with actual behavior, we are ready to communicate this information to the students. I am not suggesting that we attempt to make every student an expert on reading television in depth. Nor am I suggesting that we wait until all the data is in. I am suggesting that we assist the students in our schools to become more aware of some of the deeper effects of television. For I believe this awareness is the first step toward reading television rather than being unconsciously manipulated by it.

Time does not allow for the full development of the numerous factors related to introducing the reading of television into the school curriculum. Nor do I feel I should attempt to do so. I prefer to encourage each of you to develop the methods you feel best suit your particular schools. With this thought in mind, I offer the following as general suggestions only:

At the primary level we might introduce a few selected experiences such as viewing a brief TV program, then have the students try not to regurgitate the content, but rather, try to express the feelings they experience as a result of the program content. This may be a start toward assisting these young students to become partially aware of the fact that they have feelings toward the content of a television program. This is indeed a difficult task, as it takes an above average teacher to establish the environment which will allow individuals the freedom of self expression.

From the intermediate grades through high school we might attempt more direct means of developing analytical skills in the depth reading of television. One approach might be to use work sheets as guides especially designed to focus the students attention on the emotional reactions others may experience as a result of viewing the program. By using this approach, I subscribe to the concept that we may better see ourselves, when we can also see others more clearly.

In all television viewing for depth reading, I suggest the use of video tape to control the speed of presentation as well as allows redundancy of presentation. Only video tape allows us to freeze the separate pictures of television's rapid montages long enough to consciously analyze these pictures. Likewise the second and third viewing allows time for more conscious thoughts, as we are not so taken by surprise.

In high school and certainly in college the reading about television could be introduced. Likewise open discussions related to these readings. At this higher level student projects in which they video tape a program, such as a commercial or political announcement, and then construct a story board denoting each separate picture and verbal statement or sound may be appropriate. After constructing the story board, the students should attempt to analyze each element and the sequence of these elements, then try to define the emotional reactions the visual/verbal content might have been designed to elicite.

In conclusion I would like to point out that I am not suggesting that we all become human computers which react to television with pure logic. First of all, as humans, this is impossible, and secondly all of television's content and it's deeper unconscious effects are not necessarily harmful. However, I do stress that each individual should be capable of some measure of defense against unconscious manipulation, and believe this defense may develop first by an awareness that television does effect us unconsciously, and secondly by the development of at least minimal skills in analyzing the relationships between content and unconscious reactions.

Television is not the only force which can manipulate mankind, but it is the greatest force yet developed. Therefore, I plead with you to sincerely consider the introduction of the reading of television in our schools. If we fail to do so, Huxley's BRAVE NEW WORLD, and Orwell's 1984, may be fact in the very near future.

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# READING RELEVANCE THROUGH MEDIA: A QUANTITATIVE ANALYSIS

by Judy Jarett
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Why look to media for relevant teaching of reading? Why will media bring relevance to reading? Let's consider how the child learns....how any of us learn. There are three areas of acquisition: Affective, psycho-motor, and cognitive; through social-emotional feelings, through physical activity and of course through mental activity.

We all have a preferred acquisition area or a preferred combination of acquisition skills, yet the school has consistently emphasized the difficult cognitive aspects. Instead of working up the learning ladder to gain the cognitive skills, the child is often forced to begin with on a cognitive level. If he can't manage cognitive tasks then he is out of the developmental reading achievement pattern and into the remedial or patch-up reading program.

This need not happen to our non-cognitive style learners. Other learning styles can be readily accommodated through utilizing media and more sensitive social or physical methods. "Sit and think," "pay attention," "get to work," "think and do" will not work for every child. Even though many children DO learn to read with such practices, often their achievement represents a difficult accommodation to the learning situation. For the child, it is often a case of "Buy now; pay later," and the price can be high.

Looking at media in the broadest sense, including all the materials and technology of print and non-print, we can see why the utilization of media in teaching reading will bring relevance to instruction. Relevance comes through: physical activity in learning; fun and happy feelings, self-select, self-propelled learning activities; developing personal interests and taste. Relevance comes from having a teacher who is able to socially relate to the child because she is free from the Mickey Mouse drill work being done by a machine. Relevance in education means having a classroom which looks like it belongs in this century, not the last. Relevance comes when the child can move into book type reading and learning in a comfortable, orderly, sensible manner.

If we want children to accomplish this most complex mental task of reading, does it make sense to begin with the most complex route to the task? Does it make sense to initiate instruction on a cognitive level, and hold it on that level, regardless of the child's natural learning proclivities? We think not. The front door of reading has been battered, beaten and kicked at for years by those who can't get in. It is time that we direct children to reading's back door and prepare ourselves for a heavy flow of traffic; media offers this rear approach.

Last summer our district set up a six week Title I reading program that provided a back door to reading, with an electric eye. That is, we used lots of electric media and everyone who approached our back door quickly came into reading activity. Our goals were: to individualize and improve reading instruction; to improve reading attitudes and abilities; and to broaden teacher's perceptions of the total reading process.

The Big Beaver Falls program was non-basal, ungraded and non-threatening to the underachieving, deprived child. Teaching was geared to the individual child's need, his instructional level, his modality preference, his interest area, and his reading expectancy. Materials suitable for meeting these criterion within the district were collected for redistribution and use in the summer, and much more material was bought by the Big Beaver Falls Area School District. Even material and equipment from previous Title I programs located in neighboring districts was utilized.

The elementary guidance and reading staff, working in conjunction with classroom teachers derived instructional reading levels for the 500 public and parochial children who signed up to come. The program could only accommodate 360; therefore, the admission criterion was set at one year below reading expectancy level. Grouping was accomplished before school began according to reading levels. Class sizes were between 15 and 20 and for every six reading teachers, there was an in-class reading consultant.

Prior to the opening of summer school, the reading director conducted an intensive three day workshop in materials, media and individualizing reading for learning styles. Teachers had still another day before classes during which they set up their classrooms, and selected materials and equipment they wanted to use.

The elementary reading specialists helped in these early efforts and in the course of the program they helped teachers in diagnosis, materials selection and movement, manipulation of equipment, individualizing, teaching, sharing and planning. These specialists saw to it that every room had a listening center, an overhead projector, a controlled reader, paperback books, films and records. Much use was made of listen and read, and film-record-book combinations. Individual film viewers were used in several rooms.

Those classrooms accommodating the first three reading grade levels used EDL/McGraw Hill's Listen Look Learn, and individualized reading system which employs programmed learning techniques in a multi-media, multi-modal format. On the upper elementary reading levels, the children chose a great deal of their own reading materials and activities.

Progress was determined through charted work reports of specific materials, i.e., EDL kits, SRA kits, controlled reader selections, listening programs, comprehension scores, LLL cycles of instruction, etcetera. Each child kept a reading folder which contained complete records on his work in various materials. No grades were given, and children were apparently encouraged by this freedom from final critique. Most children showed unusually good progress, improved accuracy and comprehension over the six week period.

The evaluation procedures for this media reading program were not of the usual design. A pre-post-test design was not appropriate somehow, for a six week, individualized, ungraded, non-book, media program in reading.

Using a pre-test, post-test research design is a highly objective, clean cut approach to educational evaluation. In fact, by its very design, the standardized test is sterile, like a medical instrument, to be used in a specific application; however, educators have made wholesale applications of these standardized tests, prescribing and relying on them for all manner of evaluations.

At the present time, these standardized tests in their current usage, represent a tourniquet when it comes to evaluation, for they cut off the flow of some of our most vital information. In much the same was as we have trapped children into the strictly cognitive learning activities, we educators, and reading people in particular, have been trapped into the strictly analytic, statistical approach to evaluation. It has become common, even required, practice to establish the worth of programs through standardized test results.

Let's answer a few questions. Are reading gains really as objectively and analytically measureable as has been assumed? Is it possible to measure total program objectives with standardized tests? Do standardized tests supply evaluators with the most meaningful information? Do standardized tests supply educators with clear direction for future instruction? We think not!

The development of more meaningful evaluation tools has been stymied by the pre-post-test syndrome. Other possible routes to reading evaluation have been overlooked, neglected or frowned upon. Just about everyone has been intimidated by standardized tests.

Consider this, the teacher has been singled out repeatedly, to be the most important factor in the school reading program, yet what part does the teacher play in the evaluation? Usually, she humbly administers the standardized reading tests. Reading research works may mention teacher's age, years of training, sex or marital status, but what mention do they make of the teacher's judgment, or the teacher's opinion about what went on in the reading program? If it isn't standardized they say, "Throw it out." We say, "Throw it in," and throw in the children's ideas of what went on, too! What could be more meaningful in evaluating a reading program than the students' and teachers' own perceptions of what happened during the program?

Standardized reading tests will not evaluate the affective factors wrapped around reading achievement. Particularly on the elementary level, we need to get a measurement of unfolding attitudes, interests, feelings of accomplishment, self perceptions and teacher/pupil interaction. These are the areas which underlie reading achievement. Look at any child with a reading problem and you will find somewhere a fault in one of these elusive reading concomitants.

For years we have said we want to improve attitudes, broaden interests, increase feelings of self worth, etcetera, with our reading programs. Well, if we design a program to accomplish these goals, then the program must produce measureable outputs in these areas. BUT standardized tests will not quantify these outputs for you; you have to do it yourself and you can!

In evaluating and quantifying the total outputs of a reading program, the first big job is to devise a concise data collecting device for teachers. Let your reading specialists help you. They can often contribute insights into the politically apt way to word a question. (Questionnaires can be threatening or insulting, if not well done.) The questionnaire must be short and simple or it won't be turned in. Short, simple answers should be encouraged and room must be allowed for the talkative teacher to become expansive. Such a teacher may include one of the elusive areas you forgot.

Provisions should be made for several levels of answering. That is, some should be simple "yes" "no" items, for gross measures; some must allow for teacher perceptions of student growth; teacher perceptions of self growth; and some for the director's grasp of the way the program is moving and developing.

Individual teachers' reports, even when anonomously given, reveal the enthusiasm, involvement and degree of participation of the professional staff. Often a "trouble school" or a troubled staff can be spotted and helped through such questionnaires. If properly devised, results from such a questionnaire will reflect the tenor of the program as well as the program's effectiveness, for effectiveness lies in more than reading scores.

Table I reproduces the teacher questionnaire used in the Big Beaver Falls Area Schools summer program of 1970. Items 1, 2, 3, 4, and 10 relate to student benefits perceived by teachers. The answers to these questions were content analyzed and tallied on the framework titled, "Student Benefits Perceived by Teachers," shown as Table II. Items 5, 6, 7, 8, 9, and 10 relate to teacher perceived benefits; these were quantified through simple content analysis and tallied on the framework titled "Teacher Perceived Benefits," shown as Table III. Content analysis came with the "Why?" in item 7; future buying direction for the reading director came with the rest of this question.

Evaluating an elementary reading program from the young child's viewpoint, using these same techniques can be a problem as long as the child has to write the answer; therefore, the questionnaire shown as Table IV was orally administered to our early elementary children with the reading staff acting as scribes. The children sat in small groups around a reading specialist. The question was asked of the group and then the children whispered their answers to the reading teacher, one at a time. Exact answers were recorded, and like the teachers, they were asked to be brief in answering. In the upper elementary reading levels, the children were given a sheet of paper on which to answer the questions, and those needing spelling help were given it. The same questions were used on the upper and lower elementary levels.

Questions 1 through 8 gave an overall picture of the children's feelings about the summer program in simple "yes" "no" answers. Questions 1, 6, 7, 11, and 12 reflected program outcomes in terms of attitudes toward self and reading achievement; positive-negative ratio was nine to one.

Question 12 gave other than dichotomous indications of social and affective growth as well as reading achievement, therefore these responses were subjected to content analysis. These responses were tallied on the framework titled, "Student Perceived Benefits", shown as Table V. Samples of comments actually made by students are shown for each category.

Questions 9, 10, 11, 13, and 14 gave the reading director future purchasing direction from the child's point of view. The answers to questions 9, 10, 11 were tallied under the following: Instrumental Reading Work; Kits; Games; Language Arts Activities; Paperbacks; Books; Total Program and Other. Instruments were an overwhelming choice.

Answers to Question 14 were tallied on the framework shown as Table VI, titled "Student Machine Choice." Directly quoted sample comments are shown by each entry on the table. The relevance of the program was directly reflected in this table, as well as the comments.

Question 15 asks, "What did you like best about your reading teacher? This question represents one of the best reasons for having at least one phase of a reading program evaluation with a non-standardized format. With this question, we had the opportunity to investigate, to get at the core of teachers' effect upon students. We had an open-end, unstructured response situation plus student anonymity. There was even an opportunity for the student to say he liked nothing about the teacher, and four children did just that.

Student responses were tallied under the categories shown on Table VII, titled "Student Assessments of Teachers." Typical comments are listed under each entry on the table. It is interesting to note that the majority of comments were of a social nature either directly or indirectly. In teacher training, often little emphasis is placed upon development of social-interaction skills in the classroom, yet according to children's perceptions, social factors represent the classroom catalyst. Recent research has supported this strongly. Multi-media reading programs by their very format, offer a more conducive social environment for the teaching and learning of reading skills.

After completing these various content analyses, checking progress in reading materials, and doing positive-negative outcome collations, we knew our program had met its established objectives; however there were other indicators of success which were also notable.

Daily attendance percentage was greater than any previous summer's. The children showed a real commitment to the program. If a child were to be absent for some reason, he would tell his teacher ahead of time. Children were so serious about letting teachers know the "why" of an absence that one teacher remarked, "It's like they feel they're breaking an appointment with you." This further emphasized the individualization the children were feeling.

Some children brought visiting cousins for several days at a time. At the end of the morning, children would often stay on and work another half hour, if the teacher would allow.

The older children gave evidence that this was a truly meaningful program for them in terms of outside reading activities. There were even a few cases of fifth and sixth grade students crying at departure time on the last day. Further indications of the strength of the program came from the teachers who almost unanimously asked to "do it again, next summer."

Our summer's work in a full media reading program left us with some very strong convictions:

1. Students should be the first consideration in the design, implementation and evaluation of a reading program.

2. Reading should be taught within a full media context in order to insure success with all learning styles.

3. Student and teacher perceptions of program effects can be meaningfully quantified and utilized for evaluation purposes.

4. "Standard" packages and inflexible patterns of school organization lead to sterile reading programs.

5. There is more to evaluation than standardized testing.

6. Utilization of relatively unstructured, anonymous response systems of evaluation provides insights to the most relevant areas of student and teacher concern.

7. Student and teacher judgment represent education's greatest untapped natural resource.

## TABLE I

## Teacher Questionnaire

1. Describe briefly any incidents that happened this summer which indicate the relevance of this program for children.

2. Have you noted any unique or outstanding cases of attitude change toward school or reading?

3. Did the children appear to enjoy reading?

4. How have the children benefitted most?

5. Have you professionally benefitted from the program this summer?

6. In what way?

7. What reading materials and equipment did you like best? Why?

8. Can you apply the techniques you have used this summer to the classroom in September? Explain.

9. What have you learned about structuring flexibility into a reading program?

0. What was the outstanding benefit from the summer program as you see it?

## TABLE II

## Student Benefits Perceived by Teachers

| Question number | 1 | 2 | 3 | 4 | 10 | T |
|---|---|---|---|---|---|---|
| Enjoyment | 5 | 6 | 20 | 17 | 1 | 49 |
| Interest-concern involvement | 12 | 7 | 13 | 1 | | 38 |
| Progress in reading | 9 | 5 | 5 | 15 | | 34 |
| Social | 4 | 5 | 4 | 2 | 1 | 16 |
| Psychological | 2 | 4 | 7 | 3 | | 16 |
| Use of media/ and materials | 3 | 1 | 7 | 8 | | 19 |
| Independence | 3 | 1 | 4 | | | 8 |
| Individualization | 1 | | 1 | 2 | 1 | 5 |

## TABLE III

## Teacher Perceived Benefits

| Question number | 5 | 6 | 7 | 8 | 9 | 10 |
|---|---|---|---|---|---|---|
| Use of media | 1 | 8 |  | 2 | 4 | 8 |
| Use of materials | 1 | 7 |  | 8 | 2 | 8 |
| Increased knowledge of reading | 1 | 7 | 5 | 12 | 9 | 10 |
| New Teaching methods | 11 | 7 | 2 | 10 | 2 | 5 |
| Meeting individual needs |  | 7 | 10 | 5 | 4 |  |
| Teacher/student relations | 1 | 7 | 2 | 3 | 2 |  |
| Teaching Flexibility |  | 8 | 8 | 3 | 6 |  |
| General Professional Benefits | 15 | 6 |  | 11 | 2 | 6 |

## TABLE IV

## Student Questionnaire

1. Do you like reading better now than you use to?
2. Did you enjoy coming to class this summer?
3. Do you like summer school better than regular school?
4. Do you want to learn to read better?
5. Would you like reading classes like this summer program all year?
6. Are you a better reader now?
7. Was anything too hard?
8. Do you feel smarter now?
9. What did you do in summer school that you liked best?
10. What was your easiest work this summer?
11. What was your hardest work this summer?
12. What good things did summer school do for you?
13. What machine did you like the best?
14. Why did you like this machine best?
15. What did you like best about your reading teacher?

## TABLE V

## Student Perceived Benefits

| Question number | 12 |
|---|---|
| IMPROVED READING SKILLS<br>"Let me read faster in skinny books." | 196 |
| GLOBAL ACADEMIC GAIN<br>"Made me work." | 31 |
| SOCIAL/PSYCHOLOGICAL DEVELOPMENT<br>"Made me wiser." | 24 |
| ENJOYMENT<br>"Play games of reading." | 14 |
| OTHER<br>"It takes too long to write." | 5 |

## TABLE VI

## Student Machine Choice

| | Tally |
|---|---|
| LEARNING ASPECTS<br>"It helped me read better." | 37 |
| CONTENT<br>"It had interesting stories." | 35 |
| ENJOYMENT<br>"It was like a game." | 34 |
| MECHANICAL INTEREST AND INDEPENDENCE<br>"It was the most complicated."<br>"You can check you mistakes." | 22 |

## TABLE VII

## Student Assessments of Teachers

| | Tally |
|---|---|
| SOCIAL ASPECTS<br>"She is nice."<br>"He tries to understand you." | 99 |
| MANAGEMENT ASPECTS<br>"Let me keep on reading 'cause I like to read.:<br>"Didn't do TOO MUCH work." | 53 |
| TEACHER/STUDENT RELATIONSHIPS<br>"She allowed us to eat candy and chew gum until 9:00."<br>"She gave us a chance." | 21 |
| PERSONAL ASSISTANCE<br>"Helps us with our work."<br>"Helped me when I needed it." | 19 |

| | |
|---|---|
| PERSONAL CHARACTERISTICS<br>"She is sensible."<br>"She doesn't get mad." | 19 |
| GLOBAL ASSESSMENTS<br>"He is a good teacher."<br>"I like her." | 17 |
| DISCIPLINE<br>"She doesn't let you get away with murder."<br>"He didn't let nobody cheat in anything." | 12 |

# WATCH THE MEDIA-MINDED KIDS GET WITH IT

by Sheldon F. Katz
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"All the world's a stage"--- and now perhaps the moon is also one, besides being a golf course and a race track for dune buggies. The show from the moon has been taken for granted, more or less, among members of the younger generation while the "over 30" group still have a bit of awe surrounding the telecasts from a quarter of a million miles away.

A lot of adults do not realize the vast amount of television stuffed into a child today -- just chew over one or two statistics; kids can stare at 4000 hours of television before they are at the kindergarten door and well over 15,000 hours by high school graduation time. They can spend more time in front of The Tube than they do in classrooms. The kids are so filled with television that they tend to be slightly oversophisticated about the mooncasts and they complain of picture quality and they decry the lack of quick draw action. Yes, truly, a visual generation... and this visual orientation stems not only from television but also from the sudden rebirth and flood of feature films, the pictures in magazines, (hello there, LIFE, PLAYBOY, etc.), the popularity of posters, those greeting cards with appealing and interesting photos that overwhelm the message, and the mobility of families that allow kids to see America today and the world tomorrow.

Television is the cool medium, according to McLuhan. "Cool", not in the teenage sense, but rather that the audience can get involved more easily. That is simple enough to prove.... just look at any guy watching a pro football game. In a matter of seconds, he is not only questing the judgment of the referees but he is also calling all of the plays for the quarterback. Kids are obviously far more involved with what is on TV than they are in most classrooms. Television has become the biggest competitor to education and the latter is still losing ground. Teachers expound theory and fact for forty minutes or more per period per day and the students remember so little...but after those same students have watched a one-minute commercial they have gotten the meaning, the message, and memorized all the words!

It is about time that we took advantage of this visual generation and looked into the means to latch onto visual education. In my classes, almost all of the work (if indeed, it is such) is done through projects, and all of the projects involve the visual as well as the "conventional" means of expression. We do films, The kids make a lot of 8mm (super and regular) films. This is a class project and every student participates. The class lists on the blackboard ideas for the plot of a film, and then we vote on which one to use. A committee is appointed to write the script and then every one gets to make comments on that script (of course, I request that the comments be positive ones). Then the script is dittoed up and given out-- the technical positions... that is, the camera people, lighting crew, and so on are chosen. The actors always come last, because I want to discourage the idea that a lead part means a good grade on the report cards. Then we shoot. We try to shoot as much as possible in some sequence because our editing equipment is nil. (At this point, show "Motorcycle Gang" and "Cheating"). This is the "procedure" used in the class for many of the projects. The kids do TV shows. The equipment is very basic-- a closed-circuit camera linked up to a VTR (video tape recorder), and a monitor set. The biggest thrill of this unit is the instant playback. Because there is no time lapse between shooting and showing the results -- with films there is often a week or two wait while the thing gets developed -- the interest stays high and it is possible to do several shows in a row.

The kids are put more on their own by working in smaller groups with the TV equipment. For example, the class will choose a central theme and then divide into a half-dozen groups. The challenge to each group is to express that special theme in their own manner through the media of television. Each student gets a chance at individual research, a chance at working the various parts of the television equipment, and being in front of the camera to present his or her version of the theme. Team work, as well as individual work, is stressed.

The spotlight is on the separateness of each child when it comes to collages. Instead of lumping thirty kids together by having them introduce themselves at the start of the year with the stale ideas of autobiographies (almost as dull as pounding out 200 words of what I did on my summer vacation), my students make a collage. They have to find pictures that they believe best express their own personality. Some of the examples are displayed in the room. The students bring in the collages and we hang them (the collages, not the students) all over the room. The idea of the collage is carried over into book reports -- for the best way to teach the plot line of a book is to do it graphically. Some examples of those graphic book reports are also shown here today.

To come back to the films for a moment. The youngsters are encouraged to do their own movies -- in fact, at the end of the year they are "pushed" into doing a short film instead of having a final exam. Last year about thirty films were turned in, and all the classes of mine were treated to a film festival that strectched over several days so that all of the films could be shown. This year we hope for a bigger and better festival. (show a couple of the students' films here). Again, let it be stressed that these films are totally written, directed, and produced by students outside of school and strictly on their own. Also, they do bring their problems concerning these films to school and I do consult with them on a one-to-one basis.

The ideas for films can be carried over to other classes, for media is not limited to English classes. Social Studies can profit greatly. Instead of having to merely read about incidents in history, the students can make a battle or discovery come alive with a film. They could conduct a news show on television about a special event -- or have a television interview show with some great celebrity ..."This Is Your Life, Napolean Bonaparte!" How about George Washington "Meets the Press". Think of the research that the kids would do for such a show and the amount of involvement of each student.

One project that should lift the spirits of an English class or a Social Studies class would be one where the kids get to correspond with students in other places of America or from another country. This is also an example where the project starts off with class involvement and filters down to each student learning, research, and doing on his or her own -- where the teacher also starts off working with the entire class then turning to small groups and then to individual students. With the correspondence project, the class begins with a letter to another class (preferably in another country) stating the aims and ideas of the students and they request a class list. When an answer is received, the kids pick out a pen-pal, and yes, usually the boys write to the girls and the girls to the boys. My classes then break down into small groups and figure out the folklore of eigth graders. We filmed games that kids of that age, and of younger ages, play. They put on film such games as jacks, chicken fights, jump rope, baseball, etc. and a narration is later put on tape to synchronize with the film. On audio tape the kids relate various sayings (the kind that go into autograph books, for example. "Columbus discovered America in 1492, and I discovered a good friend in you."); insults ("Ahhhh, your mother wears army boots."); superstitions ("Step on a crack and break your mother's back" - and then how many kids will actually step on a crack?), and the like. Of course, a copy of that is enclosed with the tape just in case the overseas friends have trouble picking words off the tape. We also do a slide-tape visit to our school so that the other kids can really get a view of where we alledgedly learn.

Incidentally, that bit of slide tape about the school is quite a project in itself, and some of my classes have chosen to do that alone. This still involved research of a type -- research about the school, the different classes the school personnel, etc., and the kids truly do a great job. The students have to write out a shooting script and then detail what pictures, or slides, must be taken and where. Everybody gets a shot at the camera. By the way, here as in other cases, an expensive camera is not needed to do the job. While a single-reflex camera is terrific for slides, outstanding slides may be had from a very inexpensive instamatic camera. After the slides were developed and put in order the narration, which was actually more in the form of dialogue, was put on tape and each student had the chance to talk on tape.

The correspondence project when put together can have as much as you want it to have. We have sent out packages that have contained films, slides, audio tape, letters, and cartoons. The folklore of junior high kids will, of course vary from area to area, form school to school--- and even from class to class! Where possible all films and such are previewed for many classes --we like to pass around the fun of learning.

Another viewpoint of the slidetape is the one that encouraged the "reluctant" learners to do reading and writing without having the student really aware that a learning process was going on. It all "sorta crept up on 'em". First, the class had to choose a theme, and lets face it, the teacher could always subtly urge certain themes on them, something like "friendship", "work", "curiosity", "trust" and so on. The class followed the schedule mentioned before about slidetapes. The results were startling-- the kids even came up with poetry for the tape and they all wanted to recite something. The most important factor was the sheer excitement of seeing the job come to a successful completion and the fact that each one in the class had a hand in that success. (show "friendship" slide tape)

Unfortunately, there are still all too numerous teachers who harbor the idea that media in the classroom is 'bring in the filmstrip projector' on a rainy day. They feel that they must give up the teachers' image if the 'give was' to something new. Nothing is given up! There is more excitement in the classroom -- and there should be. Excitement comes from learning, and media means that the teacher has set up a learning situation and that the kids have responded. Another example might be in a math class. The teacher could lecture for days about a certain theory without any great results. But let the kids make a film loop about it-- again the individual research, work, and fun would lead to learning-- and then kids could teach the kids. The teacher again, has lost nothing in the classroom -- rather, he or she might get more respect from the kids and more learning out of them. Let the kids make a TV show for a science class -- how about an animated cartoon on the reaction of certain chemicals, or the dancing elements, or the exciting film on what happens on the way to different test tube reactions.

The emphasis is still on the individual student, and with media in the classroom, the teacher is able to devote energies to project groups and to the students one-by-one. Another example is the use of the regular camera (or the still camera). Those have been used to tell a story without words... where the student shot about a dozen photos and arranged them in a form to tell a story. The cameras were used to focus on the student by having them take pictures of their own environment. These pictures were mounted and displayed --- then the students had to photograph ther conception of the environment of an ethnic minority, the Hopi Indian, a Chicano, black, Jew, Italian, etc. They then compared environments. This, of course, opened numerous alleys of discussion as well as awaking in each student an awareness of himself, the world immediately around him, and the world as it relates to others.

This has not been a lesson in "how-to-do" something. A few hints for projects were included, but teachers generally are imaginative to come up with their own ideas -- and where possible, listen to the kids for their ideas are most relevent and very exciting. As to the technique of the working, the equipment... well, don't worry! It is not the product, but rather the process. The learning is in the doing. The raw films will not chase Hollywood or Madison Avenue out of business and the audio tapes will not shake radio stations from their perch. Instead this will be a learning experience, and the teacher will learn right along with the students. The films, tapes, pictures, etc. will bring learning to the class -- and as the class reaches into the bag of learning, then each child will also be able to put his or her own hand into that bag. Each child will know success, as well as gaining some knowledge, and the relationship between teacher and student will draw closer.

Be prepared to learn with the students, be prepared to see that the students do learn, and that there will be some fun in the classroom. Watch the media-minded kids get with it!

# AN AUDIO-TUTORIAL
# PROGRAM IN SECOND GRADE SCIENCE

by Joseph D. Novak
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The Elementary Science Project has attempted to develop a core science curriculum for the elementary school. Some of the characteristics of this program include (1) the minimum amount of management required, (2) flexibility which allows individual children to have significant control over their own learning, and (3) the multi-media approach to the presentation of information.

The Level II materials have been used by 680 children from 29 classrooms in 12 elementary schools. Each lesson is set up in a science carrel, and the children go one at a time to that booth and proceed through the 18-minute lesson. Of the 28 carrels used for this science instruction, 6 were located in open learning areas, 17 were located in self-contained classrooms, 3 were located in science classrooms (few schools have science rooms), and the last 2 were located in a library-media center.

In each school someone had to assume responsibility for setting up a new lesson each week and maintaining it, e.g., replenishing work sheets, replacing lost crayons, filling water bottles used to water seeds, etc. Of those assuming this responsibility, there were 16 classroom teachers, 2 science specialists, 1 librarian, 1 paraprofessional aide, 1 student teacher, and in one case older children maintained the science booth. The Elementary Science Project staff delivered the complete lesson kits to the schools. A teacher's handbook and picture in the top of each lesson box showed how to set the lesson up in the carrel and how to maintain it during the subsequent week. It was reported that an average of 8 minutes per week were required to set up the lesson and another 8 minutes per week were required to maintain it.

Both the children and teacher were involved in the audio-tutorial instruction. One side of the cassette tape held the child's lesson, and the other side of the tape held the teacher's in-service training program. When a child was involved with the materials, he would start the taperecorder and follow the directions provided by the taped commentary. The child was actively involved in manipulating materials and props. Worksheets were used as immediate feedback for the child. Often super-8 films were used, and the child operated the Kodak Ektagraphic 120 projector himself. The instructions for running the Panasonic taperecorder, the Kodak projector, and other machines were incorporated within the audio-tutorial instructions, thus freeing the teacher from the responsibility of teaching each child how to operate each piece of equipment. Although each lesson presented structured instruction concerning certain science concepts and processes, the children did have frequent opportunity to try out things on their own. A child also had the option of stopping the taperecorder and using a particular prop at some length or watching a movie a second time, or drawing for a longer time on his worksheet.

The teachers' in-service training program was also developed using the audio-tutorial mode. One side of the tape of each lesson contained information for the teacher concerning (1) how all of the equipment in the lesson worked, (2) what the children were expected to do in the lesson, (3) what the children should learn, (4) what questions the children might ask after the lesson, (5) the teachers were given some information about the long-term sequence of science concepts which was presented to the children, and (6) the teachers were given some suggestions for optional additional activities which they could use with individual students or larger groups.

The teachers' handbook also gives additional information on these preceding points. It was reported by the teachers that they spent an average of 15 minutes each week listening to their in-service training program, which they could listen to at any convenient time. Many teachers also reported that they listened to the children's version of each lesson. Teachers reported doing about one-half of the suggested, optional activities. At the end of the year's program, 90% of those teachers reported a significantly positive change in their attitudes towards the audio-tutorial, multi-media approach to instruction.

An extensive evaluation program was carried out. A picture-crayon, non-verbal test was developed as was a means to use this test with a whole class at one time. A class of children was taken to a learning center, and each child placed in a separate booth. The instructions for the test were fed to each student's earphones, and all took the test simultaneously. Another type of test was developed which employed Piaget's revised clinical technique. The child was asked to verbally predict and explain phenomena. He was given the opportunity to manipulate materials as part of his explanation. The interviewer had the opportunity to probe the child when appropriate to gain more information. Although the picture test was useful, more information could be collected from a child during an individual interview.

We have found that the audio-tutorial approach to elementary school science is successful on the basis of several criteria. It has been demonstrated that students make significant gains in understanding ba science concepts with this method of instruction. Moreover, achievement has been demonstrated for vari· ability levels. Our teacher questionnaire study has shown that the program is well accepted by teachers. Science activities related to the audio-tutorial lessons are used less frequently than might be desired, but the audio-tutorial program does promote additional, independent student investigations as well as structured study in the lessons themselves. Students were highly enthusiastic and responsive to the lessons, including many students who were otherwise experiencing achievement difficulties.

The feasibility of audio-tutorial science at the second grade level has been supported by this study. Should mechanisms for wide-scale utilization of this kind of program become available, we believe the evidence of this study supports adoption of such a program.

# USE OF VIDEOTAPE FOR TEACHER TRAINING

by Doris Selub
Freeport, New York

Reading research and reading meetings are always filled with discussions of "reading readiness." I feel we should, perhaps, be more concerned with "teaching readiness." How many of you remember your first year in the classroom or in the school? I remember vividly my feeling of 'unreadiness,' uncertainty about what to do, when to do it, and--most important--how to do it.

I decided that if I listened hard in the Faculty Room and in the Teacher's Lunchroom, I might pick up useful hints. I did, but not about teaching. Recipes, stock market, movies -- all the things that teachers, and all groups, discuss in their free time -- but not about teaching. So, I gathered my courage, approached the "grande dame" of the department, the most experienced member of the department, and asked if I could observe her class. She glanced at me and said, "My dear, I'm much too old to be bothered with that sort of thing."

Only three weeks of the semester had gone by when I had my first observation. The principal came in, the last period of the day, to observe my lesson, in a class of high school freshmen, to whom the presence of the principal meant nothing. How could it, when they didn't know who he was? The only one thrown by the unexpected visit was Teacher. I had no idea what sorts of things he was looking for, or looking at. In retrospect, I can assume that it was a kind of pre-test, against which he would, later, evaluate progress. But at that moment, I felt resentful -- resentful that no one in the school was concerned about teaching me anything about teaching.

## The Problem

Here then, is the problem. Teachers need to learn more about their craft, and we must provide the opportunity for them. There are many facets to the problem: new teachers need the chance to learn from more experienced teachers; experienced teachers need the chance to learn new techniques and new teaching strategies. And both types of opportunities must be provided economically, without creating massive problems for the school administration, and for the people involved. We have probably all been in systems where complicated schedules were announced for inter-visitations, only to fall apart because certain teachers did not want to be "visited," or other teachers could not visit on the appointed date, etc., etc.

To underscore the need, the State Education Department last January issued a report on Pre-Service Reading Education. After polling the entire population of teachers with a bachelor's degree teaching for the first time in New York State, they reported that:

"1. Nearly 50% have had no course in the teaching of reading
2. Approximately 40% have had one course
3. Only 10% have had more than a one-semester course."

The State Education Department report points to one major channel of action: development of strong inservice programs for improvement of deficiencies. Again, the need for teacher training--but how?

## A Solution

No panacea exists, no magic wand which, waved gently, creates a brave, new school, or school staff. But hard work, with the use of technology, can help. In Freeport, we are using videotape in many ways, but today I want to deal with only one--its use as the single most effective tool for teacher training.

## The Freeport Model

We have focused this year on one grade throughout the district: second grade. Within this focus, major emphasis is placed on "retooling" the skills of our professional staff. All second grade teachers are freed from classes for eight full days, one day a week for eight weeks, for training workshops. And most important in these workshops is the use of videotape to demonstrate a specific teaching strategy with a group of students.

You are going to see one of our "mini lessons" demonstrating a specific comprehension lesson. Keep in mind that this tape is shwon to a group of teachers, with the instruction to them that they are to note, on paper, the steps in the lesson as they see it. Then, time is allotted for discussion on the lesson plan, why steps were taken in this order, what preceded and what followed, and any other questions the teachers have. The discussion period following the viewing is absolutely essential; the lesson would be worthless without it.

For each lesson, there is a specific instructional objective, identified in terms of pupil behavior, and a clearly defined procedure. Just a brief word before you view the tape. We always tape more of the lesson than we finally show, and we edit with an eye to keeping the taped lesson to the essentials necessary for our teaching objective with our final audience -- the teachers.

Finally, the question becomes -- do we want to, can we afford to wait for experience to make more effective teachers -- or do we use this tool to speed the process?

# MEDIA AND THE ENVIRONMENT

by Leo C. Irrera
Educational Communications Unit
New York State Education Department
Albany, New York

In looking over the program for the New York State Educational Communications Association Conference, I couldn't help being impressed by the richness of the offerings. They seemed to cover all aspects of media from the practical, to the technical, to the aesthetic. There was, however, one omission -- Media as environment--. This didn't surprise me since it is most often the case that the most pervasive aspects of our inventions escape us.

John Culkin said, "I don't know who discovered water, but I know it wasn't a fish." The reason, of course, being that fish don't know they are in water. They don't even know they are swimming. They think everyone walks that way. So -- if you want to know about water, don't ask a fish.

There are ways, however, of making a fish understand about water. Just pull him out by the tail. He not only will learn about water but also about swimming and a lot of other things that fish had never given much thought to -- or -- you might try changing the natural state of his water instead, such as temperature, taste or elements. This too will help him learn.

This has happened to some human fish recently which explains our recent concern for ecology -- Air and Earth pollution, water pollution or noise pollution. Individual interest in these areas is dependent on which of your environments was disrupted most recently. For, in most cases, until it was disrupted, you didn't even know it was there.

Twelve or fifteen years ago when McLuhan said that the Medium is the message, he was greeted first with laughter by the fish who found the suggestion that they were all wet amusing, and then with derision by those who preferred the security of the water to the discomfort of being pulled out momentarily in order to better perceive their environment. There are, of course, some inherent dangers in perceiving one's environment that vary with one's place in it and his willingness to face it.

Today the fact that the medium is the message is hardly worth discussing. However, the meaning of the message and what to do about it are.

Before proceeding with a discussion of the new environment as a media event and some of its effects on us and our institutions, let me throw out a few quotes by some pretty sharp guys that may pull us out of the water momentarily.

> "Literate man has turned his "I" into an "Eye."
> "The trouble with being literate is that it makes one literal."
> "Modern man is A.B.C.E.D. minded - that spells abcedminded."
> "We're rushing to the future with our eyes fixed firmly on the rear view mirror --- We keep changing the picture without ever questioning the frame."

--- New York State Education Department's redesign project is probably the first broad attempt to question the frame. How successful we will be will depend to a great extent on how willing we are to really see our environment. ---

Media for our purpose will consist not only of the more obvious ways of moving information such as T.V., Radio, Film, computers and print, but also of less considered forms such as the automobile - which moves you as information -, the credit card, "The new money" - which moves information about -, and the dollar which carries its own information, -- this information has been less consistent and accurate of late and the buck is consequently floating much like a rumor. We may be justified in referring to it as "the old money," since rumors don't usually last long.

Every medium creates a new environment around the old medium. TV created a new environment around radio and the movies - which in turn did the same to theater and print - Photography did it to painting, the car did it to the horse, the plane did it to the train and the credit card will do it to money.

Every new medium "puts-on" the old medium, in a sense it renders it obsolete and thereby turns it into an art form. Every new medium ends up by changing everything.

For example, the railroad not only changed transportation but actually reshaped our towns and their relationship to each other. Compare the development of the U.S., a railroad country, with South America, an airplane country. The railroad idea is a linear one - I doubt if a pre-literate could ever entertain a railroad concept or funnel his mental processes into "A Train of Thought." - This gives us a clue as to the effects of print.

We are used to thinking of content as the message. The content is of course a message. However, what McLuhan suggested rather dramatically is that there is an over-riding message with more lasting effects that we must consider. He, therefore, says that the content of the train, be it soldiers or freight, is of less consequence than the effect of the railroad itself. The effect of the printed word was of more consequence than the content of the page.

The combined effect of T.V., Radio, Film, Computers, L.P. Records and anything else that plugs into a wall or battery, including the light bulb, is the electronic age, our present environment whose effect is, to quote McLuhan, to diminish if not to erradicate the line, the railroad line, the clothes line, the party line, the hem line, the print line and possibly the telephone line. This environment has wrapped itself around the old environment and turned it obsolete. Just as our man made satellite environment has turned the entire planet obsolete and into an art form. This may be why we've suddenly noticed how fragile the earth is and how limited are its resources. The business of the 70's and 80's may well be to do with our planet what we've done with our other art forms - that is, we'll restore it, treasure and pay homage to it.

The total effect of the media environment can be felt in every phase of our lives and of our institutions. It has brought on the well named "Information explosion." It has worked over our senses and our perceptions - and to a great extent has re-orchestrated them. This has played havoc with relationships between generations as well as with and within our institutions which are all presently set up on a linear mode. There is a law of reversibility that states that if you push anything too far it Flips. If you push speed to its limits, you end up with stasis. - When we travel by TV at the speed of light, we won't be going anywhere. - If we push information to its limits, we may end up with a tune-out. The limits are, of course, determined by the rigidity of the frame. If the frame is infinitely flexible, these limits may never be reached. Therefore, it behooves us to continually examine the frame of our own habits as well as that of our institutions.

Tony Schwartz, who is probably the greatest artist in sound, trainer of auditory perception and who calls himself justifiably an environmental media consultant, has done some interesting work in this area that points out very clearly the undeniable effects of media on the human as well as on his surroundings. Tony, through the magic of his tape recorders, has the ability to take much of what geniuses such as McLuhan, futurists such as Toffler, anthropologists such as Carpenter and Meade have theorized on, combine it with his own insights and original perceptions, put it all together and play it back in a way that peels the environment, giving you a new look. For example: in his studio, you can hear real examples of how man's sight has been expanded from the twelve mile limit of the horizon to being able to now see a man's footsteps on the moon. How the speed of sound is no longer fixed but has been expanded a million times. In a detailed auditory study of a slice of Manhattan - 85th Street - from the East River to the Hudson, Tony has discovered that man is no longer a perceiver of his environment but rather a receiver of it.

He has also pointed out that television has made it possible for all people to experience all the same world events from exactly the same point of view. This has never happened before. The implications of this are tremendous.

And the media have given new meanings to the street. Whereas the street was once a vital part of the apartment dweller's existence. He now shuts it out along with the weather, he sits in his air-conditioned living room in front of his T.V., more in contact with Vietnam and California than with the man across the street, no longer perceiving his environment but receiving it.

What does this all mean? To us - to education - in fact to all our institutions?

Last year, my colleague Scott Wright and I, working in conjunction with John Culkin and the Center for Understanding Media, were deeply involved in the Newburgh Media Project which we designed. This was funded by the Ford Foundation and developed into an Experiment in Community Communications Operation - E.C.C.O. We learned many things during the course of the year. The most important, the most pervasive and, consequently, the most elusive - I think we learned it the last week - was that there was no community. That there are very few, if any, communities left in the true sense of the word in this country. We learned this incidentally, not by studying the community but by studying media. Why has the community disappeared? One obvious reason is population, when towns grew to more than a couple of hundred, the town hall was no longer viable. But there is another reason with more frustrating implications if we don't deal with it. An example may best illustrate it.

- Scott and I were returning from New York City discussing this absence of a community. We ended up in bumper to bumper, stop and go traffic typical of the West Side Highway. We were proceeding at a speed of five feet a minute. Looking into that tangle of cars, we noticed most of them contained no more than one passenger. Below us the subway was roaring uptown at probably 60 miles an hour. Why? A second look revealed that most of the cars had their windows closed. Ours did, since we had the air-conditioning on. Many of the cars must have had their radios on since drivers could be seen - not heard - tapping their hands rhythmically on their steering wheel. This was perfectly safe since the steering wheel had no other function. We weren't going any place. Why? Why this stop and go inconvenience when below ground people were being transported swiftly to their homes? This was not a freak occasion but a twice a day happening in Manhattan during the rush hours - which incidentally are the only times these drivers use their cars. - Why this every day? One answer, we felt, was that the automobile was much more than the extension of a horse or the foot as McLuhan claimed, It was either the extension of isolationism, of privacy - or the trading in of one type of isolation for another. These drivers were paying this horrible daily price for a metal skin that - while their radios kept them informed of happenings in the outside world - the closed windows and the air conditioners kept them "Out of real touch" with their fellow man. Subways can't work, at least presently, because human physical contact is to be avoided at all costs. Accepting the automobile as an extension of an isolationism that makes avoiding human contact with strangers possible, we took another look at other media. Since all media functions to move information and all was invented by man, it would be logical to assume that man is a communicating animal Also, since most of man's inventions make it possible for him to communicate with more distant sources - sources he used to be isolated from* - it would also be logical to assume that this is being done to broaden man's communicating potential. A look at the other side of the coin reveals a different picture. He is actually projecting his communication over or past his neighbor. It is easier for the apartment dweller to contact his distant friends by phone than it is for him to contact someone who lives downstairs or next door. It is easier for a man in New York City to be involved in a disaster in Dallas than with one on the street or, for that matter, in his hallway. Tony Schwartz says that if you are being mugged in a hallway, don't yell "Help," yell "Fire." If one looks at all media as an extension of privacy, isolationism or protection from physical human involvement, a whole new concern opens up.

Television becomes an extension of physical isolationism not only from strangers but from our immediate family. While an entire family could be sitting in front of a T.V. sharing the same program, they are, in fact, each doing their own thing with the electronic image. T.V. is giving the viewer the apparent images and sounds of the real world while keeping him at arms length from it. Also, since it gives him the same events and point of view as it gives everyone else and he senses this, there is no need for him to get actively involved since, obviously, someone else is taking care of things. There is one more point in this matter. The entire family sitting along side of each other in front of the set is given a feeling of mutual participation while, in reality, very little is demanded in the way of physical human contact. They even have an excuse for not looking at each other. This was harder to do with radio.

There is a strong sense today that physical human contact and involvement is lacking in our lives. This may explain the rise of the sensitivity training and encounter group phenomenon. It may also explain the kids' need to go off into communes and to share pads where they can relate and communicate. Unfortunately, these have not often succeeded for long periods of time for, in order to communicate, many of the kids have had to stone themselves out of their minds. Drugs may, therefore, come close to being the ultimate extension of isolationism. Suicide perhaps is the end.

This is a harsh extension perhaps of the road from igloo to separate room, to separate apartment, to separate home, to let's get away from it all vacation, to separate auto. The electronic media may, if pushed far enough, flip and force us together again. For example, television and air conditioning and the telephone make it possible for us to sell the house and move back to an apartment, while still maintaining even more privacy from the outside world than we had in the country home. Drugs allow us to share a bed and still maintain the utmost privacy.

The implication of this speculation is that even if given the opportunity, the old town hall won't come back.

Let us assume that the community is gone in a shoulder to shoulder sense and that man no longer has to leave his home to satisfy communication needs. However, the communication he is doing is not really Co munication but rather as Tony Schwartz says, munication, in that he is either ingesting or disseminating material without any dialogue - either way we can see a real problem arising. For the kind of difficulties man faces are increasingly more and more dependent on teamwork for solutions. In addition, we seem to have exhausted the perceptions of experts and are still no closer to arriving at peace, financial and ecological stability. Our institutions - all in the hands of experts - schools, churches, courts, and even the stock market, are not functioning well. Certainly some new perceptions are needed. The most expeditious way to recreate the needed community that would make this possible is to do it electronically. The electronic community is a must and not far away. Work remains to be done by the computer companies to take us out of the fast accounting stage and put us into the age of the computer while the C.A.T.V. companies develop methods and techniques for combining both media in a mode that will permit dialogue and place the emphasis back on communities. All members of the community of all ages could participate in working on real issues and problems rather than being relegated to merely putting the stamp of approval on someone else's efforts. There is an added advantage to the electronic community - if we take the law of reversibility into account, if we push electronics far enough, they may flip and bring us back together again.

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*We are presently trying to reach extra-terrestial sources.

The advent of the electronic community will most certainly be seen by the youngsters presently in school and probably by most people in this room. What are we doing about it?

Many experts on electronic media are still conceiving of progress in a linear mode. Many futurists are still conceiving of the future in a linear mode. If the electronic age defied linearity, the computer age will totally shatter it. Some of the more conservative experts place this age twenty years from now. Computer people say no more than 10.

In this picture, where do we fit our linear schools (modeled after the book with page one in kindergarten and page two in first grade, etc.) and those whose greatest concern is the teaching of reading in a time when print ranks no more than 5th as an effective mode of moving information?

# USE OF MODULES OF INSTRUCTION IN TRAINING FOR MEDIA UTILIZATION

by Richard C. Howard
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## INTRODUCTION

A. At the University of Rhode Island this year an attempt has been made to organize its undergraduage media course in terms of a systems approach to instruction. A system may be roughly defined as a complex of instructors, teaching aides, technicians, machines, printed materials, and audiovisual devices and materials which a student encounters during an instructional period of time. The instructional configuration for this particular system consists of three phases: group instruction, individualized instruction, and modules of self-instruction.

Group instruction is aimed at providing common knowledge, exploring areas of learning, establishing a rationale for an instructional topic, stimulating interest in a topic. Group instruction sets the stage, as it were; it may analyze or synthesize a common problem.

Individual instruction, in this system, refers to student-teacher interaction on an individual basis. The teacher and his assistants or associates become resource people to whom a learner may go for help on an individual problem, to get further clarification of a concept on principle, or to observe a demonstration of a technique.

The self-instruction phase of this system is aimed at providing materials and devices for the learner to work or study on his own and at his own convenience. It encourages the learner to accept the responsibility for his own learning. He may use an 8mm loop film to observe a demonstration for practicing a skill; he may view a 16mm motion picture to study the steps in a process; he may read books, monographs, or magazine articles relating to a topic; he may listen to a taped lecture to clear up points not fully understood in the group instructional session, or he may use a slide-tape series to learn the setup and operation of a piece of media hardware.

The module or systems approach stresses individualization of instruction.

The format of this particular system has been termed as Modules of Instruction. A module offers the learner a choice of alternative learning experiences. The learner has a choice of routes of learning. Behavioral objectives guide him in his learning. Behavioral objectives, basic elements of the systems package, tell the learner what he is expected to be able to do when called upon to demonstrate that he has achieved the learning objectives. They establish for the learner the conditions or limitations under which he deomonstrates his achievement of the objectives; they establish the standards of performance by which he will be evaluated.

As a first step in the use of each module, the learner takes a pre-test based on the objectives in the particular package he is to use. If the results of the pre-test indicate that the learner has not already achieved the objectives of the package, he selects from a list of suggested alternative subject matter, media, and methodology that best fit his particular style of learning. The objectives of the package are his constant guides. When the learner feels that he has achieved one objective, he moves on to another, selecting from alternative subject matter, media, and methodology.

When the learner feels that he has achieved all of the objectives, he takes a self-test.[1] If the results indicate that he has achieved all of the objectives, he is evaluated by the teacher or lab assistant. If the results indicate that he has not achieved certain objectives, he continues to select from the learning alternatives, or seeks help from the teacher, until he is able to achieve the particular objectives. If the results of the self-test indicate that the learner has achieved all of the objectives and he demonstrates the achievement of these objectives in the teacher evaluation, he is ready to choose another module.

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[1] Jerrold E. Kemp, "Instructional Design" Fearon Publishers, Belmont, California, 1971.

B. Aims and objectives of the project.

The aim of this project is to determine whether or not there is a difference in performance behavior on the part of learners by using two different modes of instruction in training for the classroom use of audio-visual equipment.

C. Progress made to date.

Informal feedback from students in the current course, Ed. 401, "Development and Utilization of Audio Visual Materials," indicates that individualized instruction using slides and tapes is a more efficient way of learning to operate audio visual equipment than having the instructor demonstrate equipment utilization on a "How to do it basis." Some modules of instruction have been organized and are operating, but not enough data has been collected due to lack of operating funds to prepare the programmed format for student use.

D. Procedures to be followed.

Sections 1 and 2 of Education 401 will provide the subjects for the experiment to begin in the fall semester, 1971.

Section 1, the control group, will receive instruction in the utilization and operation of five basic pieces of equipment found in classrooms today. The usual mode of instruction has been to have the instructor demonstrate the setup and operation of each piece of equipment and then have the student "try to imitate the instructor." No behavioral objectives had been previously used to determine whether or not the student had in fact learned to operate the equipment with any degree of proficiency.

Section 2, the experimental group, will view and listen to a series of slide tapes with an automatic advance mechanism that will instruct the student in the same basic operation. The instruction will be programmed in that one step of the operation of the equipment will need to be correctly performed before the next slide drops. At the completion of the particular module of instruction the student will be tested by a graduate assistant for specific behaviors that indicate that learning has taken place. If the student fails to perform to a pre-determined level of proficiency, he will be recycled through the slide tape module until the criterion standard is achieved.

At the conclusion of the fall term, two groups of 10 subjects will be randomly selected from the control and the experimental sections. The results of testing will be compared and analyzed.

A student t-test for paired data will be applied to test results. A comparison between the sum of the matched pairs will test the hypothesis that training using the experimental group method of instruction will yield higher scores than training by the control group. A t-statistic will be utilized to examine whether or not differences, if any, are significant. A null hypothesis will render significance, if observed, resulting in saved classroom and tutorial hours of instruction.

A series of five modules of instruction will be generated using 2 x 2 format slides. A cassette tape to accompany the slides will provide instruction in operating the equipment. All equipment used will be provided by the Audio Visual Center. The design of the modules will be structured using a programmed learning device station. A graduate student will monitor each student for feedback information as to how the program could be improved.

The five pieces of equipment that will be photographed for instruction are: a. 16mm motion picture projector, b. Overhead projector, c. Tape recorder, d. Filmstrip projector, e. Slide projector.

There is a good possibility that in-service training to the university faculty might be initiated, if the results are significant. The individualized format of instruction would permit any staff member to learn equipment operation and use at their own pace and time.

The use of this systems/module approach is not new. Some problems have been encountered. The voice quality of the instructional tapes needs to be evaluated constantly in terms of boredom factor. But it does provide individualized instruction by example. Prospective teachers can generate their own slide tapes to suit their own instructional needs and situations.

# ORGANIZING INDEPENDENT LEARNING ACTIVITIES THROUGH MEDIA CURRICULUM PROJECTS

by Rod Jaros
Chappaqua, New York

The preliminary program description of my presentation today contained a misprint that tended to reverse one of the ideas I want to develop. The program read: "it takes more than a faculty (the error is in the word faculty), equipment, materials, and staff to shape a successful media program." It was meant to read: "it takes more than a facility, equipment, materials, and staff" to make a good program. As you know, a cooperative faculty is an absolute must. It should be clear that an I.M.C., with its director, staff, hardware and software aren't worth a damn if teachers haven't the inclination or the skill to direct students there in pursuit of learning.

And so at Horace Greeley High School in Chappaqua, we knew that once we had provided learning centers by converting a large study hall across from the library and by allowing for the presence of additional learning centers in the construction of a new classroom building, we would have to encourage faculty participation in the program, not, of course, only because the facilities were there, but because we knew they could make a positive difference in the learning process. I should say also that a high percentage of our faculty are not favorably - Hence, media curriculum projects.

Before I speak about the projects themselves, I would like to show you some slides of our media facilities as they have developed during the past three years so that you will see why curriculum projects such as those we sponsor work well for us. I might add that Horace Greeley is a campus type high school, and that this year we are operating according to a modular schedule. Students have no mandatory study hall assignments.

### SLIDE 1 (Library)

The library is a quiet study area. We work at keeping it that way for those who prefer to work in that kind of atmosphere. Maintaining quiet in this area is a full-time job. I think a smaller area set aside for this purpose would more than adequately serve the same purpose. You will notice an absence of mediated activities. All print materials, with the exception of those on reserve in learning centers are housed here.

### SLIDE 2 (Records)

The record collection, most of the silent filmstrips, and the art slides are kept here also. We are presently considering moving appropriate portions of the record collection to the English, social studies and language learning centers when adequate shelving facilities have been established in these areas. You will in fact see a number of sound filmstrips in this slide. These have since been removed to appropriate learning centers.

### SLIDE 3 (Original Learning Center)

Two years ago materials in the language lab in a section of the large study hall across from the library were expanded to include tape recordings useful to students in English and social studies. We even included some popular music tapes to attract kids to the area. We got more business than we bargained for. The language department got mad at us. We removed the music tapes.

### SLIDE 4 (Learning Center Last Year)

Last year the entire study hall was given over for use as a learning center to provide not only listening facilities, but also viewing and production capabilities as well.

### SLIDE 5 (Production)

The production areas, in past.

### SLIDE 6 (Movie Viewing)

Rear screen projection in this same facility.

SLIDE 7 (Present Language Lab)

This year we again moved moveable partitions in this facility and gave the language department its own learning center again. We now call it the language learning center instead of the language lab because the scope of activities there have been broadened.

SLIDE 8 (Present Production Area)

This change enlarged the production area, allows more student work space and hopefully encourages more of them to come in to make things.

SLIDE 9 (Production Area)

This area is especially important to the success of the media project program as I shall explain in more detail later.

SLIDE 10 (Outside of L Building)

In addition, this year we have occupied a new classroom building. This houses the English department on one floor, the social studies department on another. Each department has its own learning center.

SLIDE 11 (Long View of L Building Learning Center)

We are still in the process of furnishing and equipping these areas. The aim in each case is to accommodate a variety of individual and small group activities like those presented in these slides:

SLIDE 12 (Movie Viewing)

Movies

SLIDE 13 (Sound Filmstrip Viewing)

Filmstrips

SLIDE 14 (Howe Table)

Recordings

SLIDE 15 (L Building Classroom)

These learning centers are at the center of each floor. Each is surrounded by twelve classrooms.

SLIDE 16 (Media Area Line Drawings)

As you can see the number of square feet of floor space devoted to our media program is considerable. But going back to my original premise, "space is not enough".

SLIDE 17 (Mediagram)

Hence, media projects.

Now, what are media projects? In brief they are mediated units of instruction designed for use in our learning centers by individuals or small groups of students.

What we have done is ask interested faculty members to identify areas in their courses that might be learned independently by students. Or we suggest that they organize a project based on some area they would otherwise have difficulty finding time to cover during regular class time.

And so we have come up with such projects as those concerned with:

SLIDE 18 (Protest)

Protest, which is essentially a slide/tape unit.

SLIDE 19 (Cell Division Project)

Cell division, which incorporates micro slides.

### SLIDE 20 (Frog Development)

Embryology, another slide/tape unit.

### SLIDE 21 (No Man is an Island)

Structure in literature, which uses slides and recordings, both tape and disc.

### SLIDE 22 (Mona Lisa)

And Renaissance art and impressionism.

Each of these last five slides either represents materials actually used in the project named or is itself a part of that project.

### SLIDE 23 (Proposal Form)

The actual process requires each teacher to complete this proposal form initially. On it he identifies the nature and scope of the unit he will develop, and most importantly learning objectives. We began by insisting on a statement of behavioral or performance objectives, but frankly were not successful in eliciting these either because teachers did not understand this requirement or did not agree with its need.

### SLIDE 24 (Interview)

Submission of the proposal is followed by an interview with the proposer. During this talk we clarify objectives, making sure both parties understand what will be the end result of the project in terms of materials prepared and objectives proposed. Most teachers will, in fact, propose too ambitious an undertaking and must be guided to something that will be manageable by students within reasonable spans of time.

We have found the next step to be a great motivator of teachers who participate in this program.

### SLIDE 25 (Dollar Bill)

Money. We decide on a dollar figure based loosely on time to be spent developing each project.

At first the payments varied between two and four hundred dollars per project. We ask the teacher to estimate the equivalent number of full working days he would spend on the project and agree to a figure based on a rate that is at present $40.00 per day.

### SLIDE 26 (Contract)

At this point the agreement is formalized in this contract signed by both parties, not so much because we need a legal document (contracts involving teachers' pay do not appear to be binding during the present federal administration) but simply to affirm that what has been agreed to previously.

In other words, we pay not really for time spent on a project, but for finished product. That is, if the teacher estimates 10 days to complete a project, and it takes only 5 days because he really pours on the steam, he will be paid the full sum. Conversely, if it takes 15 days, the 10-day figure stands.

What we have found, actually, is that the materials produced by a 10-day project are often too comprehensive to be manageable easily by students alone in a learning center. If they have too much ground to cover, they tend to lose interest.

And so we have limited the scope of the projects to 5 days (or $200.00 worth) and find them much more effective.

### SLIDE 27 (Project Packet)

The activities required of students will vary from project to project. All, however, are set up basically the same. The student is provided with a dittoed packet of instructions in which he finds written:

### SLIDE 28 (Rationale and Objectives)

A rationale for what he is about to do and a list of objectives he is expected to lish, SLIDE 29 (Activities)

activities he must perform,

SLIDE 30 (Follow-up)

and an indication of some kind of follow-up acitivity. The latter may be a test or a quiz, an interview with the teacher, or simply class discussion. At any rate, we insist that all instructions are clear to the student, including the reasons why he is being required to perform the stated activities.

SLIDE 31 (Cell Division Project)

Materials will vary from project to project, but will occur mostly in one of two formats, commercially prepared or originally produced, sometimes a combination of both.

SLIDE 32 (Black Spectrum Filmstrips)

Teachers will sometimes find an item ideal for their purposes and will build their unit around it, as for instance these sound filmstrips, which among others are central to Alice Cross' project on black studies.

SLIDE 33 (Immigration Filmstrips)

or these, which are the key to Bob Gilson's unit on immigration.

SLIDE 34 (Mr. Stearns and Movie)

Geof Stearns has built his second project around what he feels are 6 excellent films on Africa and Africans.

In each case, as soon as a project is approved, we set about ordering materials on a preview basis, hoping to find some that will work well.

SLIDE 35 (Camera Stand)

An equal number of teachers have prepared their own material. These take the form of slides and tape recordings mostly. Again, once a project has been agreed upon, we make available to the teacher a list of operations we are able to perform in our production facility. These include the making of 2 x 2 slides.

SLIDE 36 (Cassette Duplicator)

Cassette duplicating

SLIDE 37 (Thermal Copier)

Thermal transparency projection

SLIDE 38 (Dry Mount Press)

Dry mounting, etc.

We assume responsibility for all production aspects of each project, and require that a teacher complete only details of content. We will type and duplicate the finished product, make the slides, duplicate the tapes, etc. This, we feel, is an important incentive to teachers who should not be expected to be profficient in these aspects of the instructional program. What this service means is that a teacher can spend more time on message than on medium if he has the kind of support we offer.

SLIDE 39 (W. W. I)

Accordingly, fine 2 x 2 slide units have been produced on such topics as the horrors of World War I.

SLIDE 40 (Napoleon)

Napoleonic Europe,

SLIDE 41 (Map)

United States map studies,

SLIDE 42 (English Revolution)

The English Revolution,

SLIDE 43 (French Revolution)

The French Revolution

SLIDE 44 (Non-Western City)

and the city in non-western cultures.

SLIDE 45 (Dark)

We began the media project program two years ago, anticipating overall success, but expecting some projects to fail. Some, in fact, have not worked out as well as expected, but the percentage of disappointments has been very small. We have found that the media project program has been a good way to get teachers and students enthusiastic about the use of media, and an effective technique at the same time for helping us more fully realize the potential of our staff and facilities.

# NEEDED: ALTERNATIVE PROGRAMS IN HIGHER EDUCATION

by Professor Lawrence Garfinkel
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Before the main point is made in this presentation, there are several perimeter points that should be set out on the table for the purpose of establishing some agreements:

They are-

1) Our future may be controlled to some extent by some intellectual estimates
2) Our future may be further controlled by changing programs which will bring about the content of that future
3) Rather than aim for total agreement among higher education disciplines, the humanistic qualities of man may better be served by the invention of "alternatives" which may suggest several directions for program development
4) The curriculum of the institution should to some degree provide an answer to the questions that society is constantly providing

Based on the above assumptions..and further, that each assumption is for the most part highly desired, the further structure of this presentation emerges-

## 1. The Problems of Mankind

For the most part, our field of Educational Communications and Technology has not necessarily been concerned with mankind's emerging problems. "Population control," "Black history," et al. have not been treated as audio-visual topics which we have helped to identify topically, insert into resource packages and deliver. The workings of our field, per se, have rarely been touched by the essential concerns that dwell in action concepts..we have rather substituted inaction as if these were problems outside of our own general education province.

My suggestion here is that rather than continue to treat these as external topics, our field begins to deal with them as internal to our development. I then propose to identify man's current major concerns with the suggestion that if we are as a society to improve, nay rather, to continue, these will be the concerns also of the next twenty-thirty years. My premise is that once identified, no major reform of our own field should take place unless it can be specifically supported by one or more answers to one or more of man's basic concerns.

In one fell swoop, I turn the field from "service" of other people's objectives, to "participation" in the making of and the realization of those objectives for all society - intereducational and intraeducational.

What are the major "problems"?

From Illytch, from Bruner, from UNESCO, from Buckminster Fuller, from "Radical Man," from the Rand Corporation, from conference-going:

a. The continued deterioration of our cities

b. Overpopulation in many areas

c. Devaluing the institutional school system

d. Continued development of mass transportation

e. Continued environmental pollution

f. Misuse of the natural resources

g. War as a social alternative

h. Individuality versus mass "good"

i. The acceleration of change

j. Information identification, storage and retrieval; and usage

k. Preventive and adaptive medicine

l. The laser and other technological developments

### 2. Emerging Community-Educational Patterns and Areas

The school system is but a single entity in the educational pattern of our nation. It has recently undergone a lessened impact, as perceived by our populace, as the non-school system portions of the educational pattern have grown more important. Mass media and community education are but two of the systems that have been recently added to the school system as a developer of education.

Here is an attempt to superimpose atop the previous list a second list of those patterns, areas, techniques and movements which have recently emerged from the schools and non-school educational situations. These are personally perceived as having the most "potential for assimilation," although there will be others that will assuredly come along and replace some of these.

a. Differentiated staffing

b. Curriculum development and redevelopment

c. Satellite Resources

d. Off-campus college degrees

e. Program Design Development (software)

f. CCTV - Community Cable

g. Alternative Schooling

h. Urban Educational Parks

i. College in high school

j. New Cities Design

k. Mass Media Appreciation

l. Technological Growth

### 3. Degree Possibilities

The usual span of degree possibilities present themselves with two additional inputs- one at the beginning, suggesting further increased usage of Associate Degrees and one at the end of the spectrum, Non-Degree In-Service Institutes which suggests a formalization of what were once single school building-partial faculty involvements but will probably become more formalized, more inclusive and probably consist of consortiums of educational interests.

a. associate degree
b. baccalaureate
c. masters
d. post-masters
e. professional diploma
f. doctorate
g. post-doctorate
h. non-degree in-service institutes

### 4. Current Thrusts in Higher Education Educational Communications/Technology Programs

a. Curriculum Development

b. Information Science

c. Audio-Visual Production

d. Administration of Audio-Visual Services

e. Learning Resource Design

f. Motivational Design

g. Mass Media Appreciation

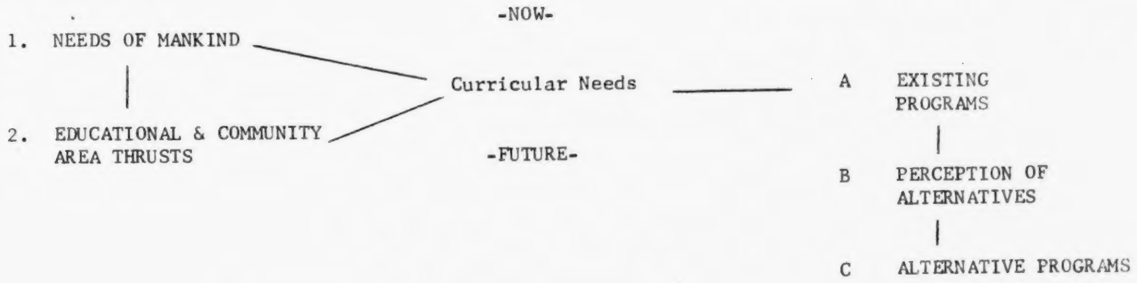
h. Learning Theory

i. Building Design/Redesign

j. Media Utilization

k. Self Mediated Instruction

5. The Alternative Programs


-NOW-
1. NEEDS OF MANKIND
2. EDUCATIONAL & COMMUNITY AREA THRUSTS
Curricular Needs
-FUTURE-
A EXISTING PROGRAMS
B PERCEPTION OF ALTERNATIVES
C ALTERNATIVE PROGRAMS

The implications of this possible procedure are these:

1) Universities and colleges within an area cluster - such as those in a metropolitan area or within student-travel-distances that are comfortable will arrange to offer significantly different Educational Communications programs.
Facilities will become more specialized on-campus and the duplication of such facilities from campus to campus will be deemphasized.
Courses taken on one location will result in a specific outlook - a specific group of specialties. Research activities can also be better identified.

2) Undergraduate programs on one campus will develop masters programs on another. Doctoral programs will grow out of masters programs at the neighboring campuses.

3) Since the new approaches to education are liable to increase arithmetically through the years, the alternative Ed Com programs should better be able to address themselves to these changes for each institution will simply suggest a cluster of alternatives for itself, different from the cluster chosen by another institution.

4) Inter-programs will be formulated. Students may spend a semester at another location or spend summers at institutes offered by other institutions.

5) Experts, resources and funds can show better "profiles" at institutions which devote themselves to specific projects, specific turf.

# CREATIVE STRATEGIES: SUCCESS STORY WITH UNSUCCESFUL CHILDREN

by Peter M. Winer
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We all talk about motivation. Teenagers are probably the most highly motivated people of all. However, what motivates them usually is not provided in school. School has become a house of detention, instead of a house of attention. It is certainly easy enough to provide motivation for students when you present them with a building containing a highly sophisticated television studio, a well equipped darkroom, film making equipment, portable Sony Rovers, a comprehensive video tape library, AV equipment and materials, and two full-time staff members whose sole function is working with the students to bring out media-oriented skills.

Please note, that I did not say "teach them about media." They already know and fully understand everything there is about media, as well as the uses of all the equipment. I see my function as merely helping them to better utilize the knowledge and comprehension they have developed. I have taught television production to teachers, and believe me, the kids pick it up much faster than the adults. When I attempt to teach adults what a medium two shot is, and when to use it during a television production, it is a hard concept to get across. The kids, however, already know what an M2S looks like, and not only when to use it, but more importantly when not to. They've seen it so often, it just comes naturally. When dealing with media, a pre-1945 person doesn't stand a chance when confronted with a post-1945 person. I'm sure that it would not be hard to convince this group that media enters into practically every aspect of our lives.

Anyone, who has worked with teenagers, knows that they thrive on success. Most can exist quite well without a constant stream of success, but some teenagers cannot function at all without at least some successful experiences every day. These are the type of students we have at Hawthorne Cedar Knolls School.

Emotionally disturbed youngsters will not function in an atmosphere that is not conducive to success. This success does not have to come easily; just as long as it is more readily apparent than in a normal situation. When our studio was installed, the first students we had in class were mostly the old AV squad. I felt that the first few productions had to be simple, yet worthwhile enough so that the students would have a sense of achievement. We began with two programs in a "How to" series. These were how to make a transparency, and how to thread and operate a 16mm Graflex projector. Both pieces of equipment are simple with straight forward steps that must be followed every time. The students wrote the scripts and handled all aspects of the production. They all knew how to operate these machines and the transition to a television production was an easy one.

Our next step was to move to a slightly more sophisticated format. Interview shows were something with which they were all very familiar. We took the obvious step from familiarity with content to familiarity with format. It is an easy format to work with, and they have a sense of timing which is uncanny, only if you don't accept how much they intrinsically know about television. This production was accomplished more comfortably, because the ex-Peace Corpsman who was being interviewed was a teacher at the school.

The next stage in our attempt to raise the students' level of production sophistication was to direct them toward "personality" or "host" type programs. Again, we felt a need to have them deal with topic that would be valuable to others; be entertaining; have a finer degree of video sophistication; and still be within their realm of competence. We asked the students what their hobbies were, and had them plan productions around their individual areas of interest.

Up to this point, all the productions coming out of our studio lab were instructional in nature. They also followed standard television dogma-esque procedures, such as scripts, director, switcher, audio-man seated at the production console, cameramen, floor managers, talent, lighting directors, etc. in the studio, all just where they're supposed to be. I felt that it was time for them to realize, that just because television had always been that way, it certainly didn't have to remain that way.

Everyone in the media realizes that since the television industry began in New York, it was tremendously influenced by Broadway, and the type of films being produced in the city at that time. Had the industry gone through infancy in Los Angeles, for example, I feel that we would be watching a totally different type of television with a very different orientation.

I prepared a simple slide presentation, that had no dialog, required no studio facilities at all, and had no crew. I presented it to the students as a personal statement about how I felt about the slow progress of the construction of our building. I did not present it to them as a new technique or format, merely as a personal expression. However, I was reasonably sure that they would pick up the idea of expressing their feelings, as well as the concept of not being tied down to the studio, and depending on a crew. I also wanted them to understand that all programs coming out of our facility did not have to be instructional. They immediately began an exciting series of programs that offered reasonable evidence that conventional television was fine, as far as it goes, but there were no rules or procedures that must be followed to get a signal down on video tape.

The boy who produced "Woodstock," was the first to experiment with a new format. He used only magazine pictures, had no dialog, just music. "America," on the other hand evolved from "Woodstock." The student, Craig, who put "America" together, used the same format, magazine pictures, and music to tell his story. However, this is where the resemblance ends. It is unfortunate that we can only see a minute or two of this program, because it is a very powerful and moving piece. Craig spent about a month collecting pictures, and selecting and recording music for his sound track.

The program is divided into three parts. The introduction shows, among other things, a Chevy Station Wagon ad with all the white families, Mom, Dad, Buddy, and Sis. Craig had the cameraman spend a long time exploring this picture, slowly panning and zooming, while the sound track music is a song entitled, "Isn't It Beautiful." The title does not appear until after this segment. The second part begins slowly, but builds quickly in intensity and excitement. One series shows Abbie Hoffman, an American Flag, the Chicago riots, and a picture of Judge Julius Hoffman in a serene mood. The sound tract at this point is a heavy rock version of "Only in America" from the movie "West Side Story." A title card begins the third segment. It asks the audience to rise for the epilogue. The music is Jimi Hendrix's version of the "Star Spangled Banner." This section also builds in intensity to a closing shot of President Nixon, which is kept on the screen for an uncomfortably long time. At the point where the audience becomes restless, he had the cameraman defocus until the picture just blurs into nothing, and then Craig faded to black. Craig directed the entire production from the studio where he was able to have the cameraman work exactly to his specifications.

"America" is an extremely sophisticated, literate portrait of this boy's frustration with his country. It is expressed powerfully and articulately. Yet there is no dialog and no written script. The boy's frustration was not only with America, but with his inability to express his emotions. He could not write well and his vocabulary was limited. Until we acquainted him with television, he had no way of expressing himself. Craig had to ask me how to spell America. Here is an example of a boy who was terribly frustrated within the traditional education system. However, when he was allowed to explore television as an alternative to the norm, he proved himself to be a sensitive, literate and articulate student.

At this point, I introduced the classes to film. Having already been through a developmental process in video, we began film making at an advanced state. One of the first animated films that was completed came from a grammar lesson. One boy wanted to see what a verb did, and watch a preposition at work. He filmed "words," a graphic display of words in action. I was interested in this film because, once again, when working with a new medium, the first few programs were instructional. This changed quickly, and we moved through the "interests" stage and then on to personal expressions.

We had now reached a level of sophistication that was at once stimulating and frustrating. Stimulating, because we were turning out good quality, valuable (to us) programming. It was frustrating, however, because it seemed to me that we were still following, too closely, already established forms of expression and technique.

We had gone from standard "how to do it" programs, to a very personal use of media. It was time for experimentation. At first, we had removed people from in front of the camera, then from behind. We had taken them out of the control room, and out of the whole studio facility. We had not, however, experimented with television itself, as its own format and content. We started playing around with video feedback, as this is a signal that is totally internal, that is, within the system involving no man made signals.

I wanted to produce pure television; to paint on the tape, in effect, with just an electronic signal. We used an audio generator for sound. The kids were way ahead of me at this point. They were really branching off, and creating exciting techniques. The most pleasing program, I think, is "Globe-ules." This is a combination of an internally lit globe, mixed through the mat mode of the special effects generator, and then allowed to feedback. It is a beautiful tape, and one that the students and I explored together. It was a valuable learning experinece for all of us.

In summary, the method we used to bring emotionally disturbed children to this high level of television production was a simple and obvious one. Certainly adaptable to a public school situation. Knowing that a failure in the early stages of our program could prove to be disastrous, we began with easily attainable goals. In a natural progression, the students and I reached a level of experimentation together, and shared our learning experiences with one another.

## Part II: William Meacham

The improved media concept at our school has been the result of two major factors, factors which have contributed largely to the success of an ever-developing communication or media program. The factors I'm talking about are:

1. An enlightened administration, and

2. The generous New York State television grant.

Equipped with excellent facilities, hardware, and supplies, we then stretched the concept of our Center beyond that of the usual teacher - supportive facility to also house a seven-period-a-day elective class for students interested in: TV, theatre techniques, photography, film making, graphics, recording - in all, just about any media or audiovisual experinece in which a student may wish to participate. Perhaps I should include here the viewing of films or video tapes - under the category of self-initiated enrichment! - which has seemed a valuable activity, too.

The development of our Center, spurred on by the initial T.V. investment, has given our students extensive contact for communicating ideas; whereas, before the construction of the Communications Center, the AV emphasis was more on the care and maintenance of equipment and in the supplying of some instructional aids.

It is in this new area of experimentation with the means of communications that our title "Success Story With Unsuccessful Children" comes to fruition. However, we might, perhaps, change one word to emphasize our real aim. The word is "with", which, changed to "for", gets ourselves out of the way as the ones evaluating success and puts the emphasis where it belongs - on the student's feeling of success. Thus, "Success Story for Unsuccessful Children". It is our hope that the students at our Center develop in areas of communications an expertise, which in itself is unusual and exciting, especially for one who to date has either considered himself, or has been considered by others, inexpert and inept in the major areas of his life. Dennis _______, one of our students, summed up what I think many of the youngsters feel about the program. "I have an instant replay thing on success", he exclaimed. "Like, I can work really hard on something, you know, try out new stuff and everything. And then, wham, right away I can see what I've done! The results are right there and they're mine. It's terrific!"

My colleague, Mr. Weiner, has already shown you examples of successful T.V. and film projects. I think it is also important to understand that, while these projects and others I will be mentioning are going on, my partner and I are also meeting with teachers, scheduling programs, routing films orders and equipment, fielding phone calls, writing reports, and handling the many bookkeeping and administration needs that a Center such as ours demands. Consequently, much of our teaching is really student-to-student teaching. And since our classes are a composite of grade levels, we are provided with an interesting area for building constructive relationships between younger and older students. One of the greatest measures of success with this type of youngster, I feel, (both for the teacher and the student) is when he takes pride in his competencies and enjoys imparting them to others. Consequently, many a new student is brought up to date or broken in by veteran students. They are then, in many instances, allowed to experiment with the equipment and to become acquainted with it. Sometimes, a specific medium inspires immediate desire toward an original production or creation. This is fine, for then the process of discovery and original thought really begins. More often, just as an art student must first explore the dimensions of his media and thoroughly learn all the possibilities of his particular tools, so our student first may thoroughly learn the equipment as a technician - sending out scheduled T.V. requests, taping off air programs, being a T.V. crew member, technical director, audio man, or darkroom technician for a multitude of school-sponsored projects. He may even wish to work towards certification on our AV Service Squad.

As the students acquire working familiarity with the various pieces of equipment and their possibilities, we then sit down together and have brainstorming sessions to find issues sufficiently important and relevant to them that they feel almost impelled to express that idea through some form of media.

You have seen and heard what we consider some of our successes. However, our long range aim is to have a professional evaluator or doctoral candidate scientifically document our approaches to learning through media in order to measure their effectiveness in such traditional classroom areas as reading, speech, and composition.

This afternoon we have only been offering subjective observation. It has been exciting to us. We hope it will inspire questions or comments from you. We have, of course, left untouched the areas of regular classroom use of media resources, inservice training courses, or any designs for joint library - media relationships, and how they all relate to student success.

Success with us is not necessarily measured in terms of creative output, since each student's natural bent is so individual, - perhaps wholly technical, perhaps wholly creative, perhaps lying somewhere in the vast area between. We find the point with these kids is to "draw out" (the real meaning of education) their own leanings and talents and then help them find a multitude of ways to apply them.

# PORTRAIT OF A RURAL AREA: SURVEY OF A TEN COUNTY AREA SURROUNDING GENESEO

by Eva Harriet Goff
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"Strategies for Learning" is the theme of this convocation. Certainly the theme is a worthy one. The study, which is the core of my presentation today, relates to the theme by describing an arena, or setting, in which some learning strategies may be implemented. More specifically, the area to be considered is that of ten counties which surround the State University College of Arts and Science at Geneseo. These ten counties are: Allegany, Genesee, Livingston, Monroe, Ontario, Orleans, Seneca, Steuben, Wayne, and Wyoming. Despite the inclusion of Monroe County, this area is principally a rural one.

To the photographer, wandering this area's country roads, the area is one of the most attractive in New York State. To this researcher, with a bias rooted in the belief that the effective utilization of instructional media is a contributing factor to the improvement of learning and, supported by increasing evidence, the area presents a different appearance. The details of that appearance are constructed from the data yielded by the survey referred to in this presentation's title.

A new certification law affecting many of those with media responsibilities that absorb more than 25 per cent of their time became effective September 1, 1969. This, together with the desire of certain personnel to review the college's services to the community, prompted the undertaking of a study entitled Media, Equipment, Personnel, and Services Survey of a Ten County Area Surrounding Geneseo. The survey instrument was a questionnaire. The population consisted of the building principals of the counties mentioned. Two mailings, one on May 27, 1970, and one on July 16, 1970, eventually yielded 81 usable questionnaires which represented 58 per cent of the 158 possible returns.

What were the questions, and what data did they yield?

The questions asked, numbering 21 in all, can be roughly categorized into four groups. The first six questions dealt with inventories in order to discover if certain basic necessities for effective utilization were present in the area. Questions 7 through 13, dealt with the institutional commitment to media as evident in existing arrangements. Questions 14 through 18 dealt with the accessibility and nature of help, related to media utilization, that was available to classroom teachers. The last three questions sought personal opinions of the administrators regarding their views concerning the effectiveness of media utilization in their schools and the ways in which the State University College of Arts and Science at Geneseo might make more effective its services to improve that media utilization. A quick look at each question and the specific data it yielded seems appropriate.

The Inventory Questions:

1. How many students are in your school? The total of the figures reported is 97,690 students. The smallest school had a population of 180. The largest single population reported was 6,900.

2. Please check each grade level in your school. All grade levels, N-12 were represented to some extent with the greatest frequency of response occurring for grades 10, 11, and 12, each having a total of 76.

3. How many full-time classroom teachers are in your school? The grand total of figures reported is 5,204. Three schools reported small faculties of 19 each. The largest single population reported was 375.

4. How many teacher aids are in your school? Ten respondents indicated having no aides at all. A total of 300 aides was reported by 67 respondents with 25 being the largest number of aides reported by any one respondent.

5. After the appropriate items in the following list, please check those pieces of equipment which are housed in your school. The list referred to was compiled and modified from lists in New York State's The Educational Communications Handbook.[1] The totals indicated that there were some of all types of equipment in the area studied. The item numbered least is the 16mm motion picture camera, with only 22 acknowledged to be in the area. Record players seem to be in the greatest quantity at 1,632, with overhead projectors following not far behind at 1,587.

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[1] University of the State of New York, The State Education Department; The Educational Communications Handbook (Albany: Division of Educational Communications, 1968), pp. 85-90.

6. What other additional audiovisual equipment do you think your school should have? Some of the responses indicated needs from several fairly broad categories such as audio equipment, cameras, dry mounting equipment, and transparency making equipment. As many as 28 respondents made specific reference to television needs. (One of the latter, I might add, qualified his statement by adding "expecially at World Series time." Another respondent added, "Our paraprofessional feels we are in good shape." One wonders!!)

The Commitment Questions:

7. Is there a member of your professional staff who has some audiovisual responsibilities? Responses indicated that 13 had no professional staff with any audiovisual responsibilities. Sixty-seven respondents acknowledged having such personnel. One school listed 8 teachers and one director as being so involved.

8. Is this person (or persons) certified under regulations put into effect on September 1, 1969? Among the answers provided by 68 respondents there were 47 affirmative ones and 23 negative ones.

9. What credentials does he (or they) have for his audiovisual responsibilities? Sixty-two responses provided a variety of rather interesting answers. Six admitted that the personnel involved had no qualifications. Five claimed that the positions as industrial arts teachers were the qualifications. Mechanical ability was identified for two with experience and interest being identified for 19 others. Seven named teacher certification only. Sixteen mentioned assorted audiovisual courses and workshops. Eight mentioned media related study programs and nine mentioned possession of administrative and supervisory certificates. Interestingly enough, only four mentioned being certified as Media Specialists in New York.

10. What needs are lacking in his (or their) credentials? Among the 24 questionnaires in which specific responses were made, most indicated the need for further study - either courses (administrative and audiovisual) or a certification program. (One respondent added, "Don't know and don't care." Still another, in spite of the fact that the certification requirements were attached, stated, "No certification needed for this.")

11. What per cent of this (or these) individual's full-time responsibilities is absorbed by the audiovisual responsibilities? Among the 70 responses provided, 29 indicated 3 to 24 per cent time absorption (part of their scheduled responsibilities) while 12 indicated that the task was totally extra-curricular. As many as 16 were involved 100 per cent while 21 others acknowledged lesser degrees of time absorption.

12. Is there any modification in his (or their) teaching load because of these responsibilities? Twenty-eight clearly indicated that no modification existed in the teaching load, but 33 as clearly responded affirmatively.

13. Is there any difference in his (or their) financial compensation because of these responsibilities? Thirty-one indicated no difference in compensation, although one of these indicated that he was given some hourly payment in the summer; 36 indicated that some financial compensation was made for these particular responsibilities.

The Accessibility and Nature Questions:

14. Where is the point of control for audiovisual equipment ("hardware" such as projectors) in your school? Fifty indicated that an Audiovisual Center was the point of control, while 10 identified the library as such. Four of the respondents indicated that the Audiovisual Center and the library were combined. A few others indicated control from an administrative office, a departmental office, or some classrooms. (One added that control was from the Janitor's Station and Learning Center. Is there significance in the combination?)

15. Where is the point of control for media ("software" such as filmstrips) in your school? Forty-five acknowledgments of library control for media were made. Thirty-three responses indicated that the Audiovisual Center was the control point.

16. Does the individual with audiovisual responsibilities conduct an inservice program for your teachers? Twenty-six responded negatively. Forty-seven provided affirmative answers. Additional comments indicated no great firmness in some of the latter responses. One responded both "yes" and "no" and offered no accompanying explanation.

17. Is anyone from outside your school building available to conduct inservice audiovisual education for your faculty? Of the 70 responses made, 36 were negative. The affirmative responses cited sources of help, ranging from commercial representatives (cited by five) through several BOCES organizations to district media supervisors (also cited by five).

18. On which of the following does the inservice program focus? Forty-nine respondents indicated that instruction was given in the operation of audiovisual equipment, albeit haphazardly as added comments indicated. Twenty-eight respondents indicated that instruction was given in the selection of materials, and 29 acknowledged instruction in planning and production. How to implement instruction with audiovisual materials evidently was considered in at least 32 schools. Only 14 acknowledged considering all of the skills listed in their inservice program.

The Personal Opinion Questions:

19. Do you feel there is a need for helping your teachers to use equipment to improve instruction? Out of 80 answers, there were 78 affirmative ones.

20. Do you feel there is a need for helping your teachers to use media to improve instruction? Again 79 respondents answered affirmatively.

21. What service in the audiovisual field would you like to see provided by the State University College of Arts and Science at Geneseo? Suggestions came from 57 respondents, four others having indicated they felt there was no way the college could likely be of help.

Instruction for audiovisual aides was sought by two respondents. Seven spoke of the need to include audiovisual education as a requirement in pre-service programs. Three asked for workshops, six for a certification program, and 11 requested inservice programs.

Three asked for more variety in our media offerings. Two referred specifically to television. Others asked for help with some of the skills listed as options to Question #18. Consultant help, public relations work, availability of the college's materials, and reviews of new materials were all suggested by still other respondents.

Details of the portrait of the rural area surrounding Geneseo have now been presented. As seen through this researcher's eye, what are the general impressions of the portrait and what are the implications of these?

As indicated by the inventory questions, the basic tangible requirements for media utilization (including students, professionals, some paraprofessionals, and equipment) are present in sufficient quantity to permit media utilization to occur. Answers to the commitment questions suggest the existence of a wide range in degree of commitment to utilization as evidenced by the arrangements operating within the schools. Among the answers to the questions related to the accessibility and nature of help available for media utilization, there is certainly indication of variety, including a not insignificant amount of haphazardness in approach. The final questions, seeking the respondents' opinions, suggest an awareness, at least, of a need for help and concrete ways of providing it.

The features described above imply that the rural area surrounding Geneseo is a potentially fertile field for the development of programs designed to improve media utilization. Such improvement would result in increasing the area's repertoire of "Strategies for Learning."

# MODIFYING TEACHER' BEHAVIOR - NYSEIMC STYLE

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A sound/slide presentation introducing the SEIMC National and State Networks and their services was shown to the audience

The National Special Education IMC/RMC Network is comprised of 14 Regional Instructional Materials Centers (IMCs). In most cases these IMCs provide services to an area of two or more states and are located in colleges and universities. Two, Illinois and New York, serve individual state regions and are located in State Education Departments.

These IMCs collect existing instructional materials pertinent to special education. They catalog, retrieve, store, and loan such materials and publish acquisition lists and informational pamphlets; consult with teachers and student teachers; hold in service meetings; help others initiate their own centers; and even attempt to produce items for instructional use. They propose attempts at materials evaluation and design.

In 1969, the four Regional Media Centers for the Deaf (RMCs) which had been initiated by the Captioned Film for the Deaf Program in 1958, were included in the Network. RMCs provide distribution of educational films and other media for the deaf, engage in film and filmstrip, as well as transparency and videotape production. Research and training in the use of mediated programmed instruction for the deaf is also a major service at the RMCs. The expansion of these services to include all areas of the handicapped was accomplished in 1968.

Early in the development of the IMC Network, it became obvious that each Regional Center could not adequately and efficiently serve everyone in its region because of the distances involved and limited numbers of staff. Since a goal of the IMC Network is to provide needed services to all special educators throughout the nation, it was determined that this could be efficiently met by developing Affiliate or Associate Centers, readily accessible to the potential user. By 1969, eighty Affiliate or Associate Centers had been established and 300 to 400 professional staff persons were devoting their time to this program. The Associate Centers are viewed as extensions of the Regional Centers, but are autonomous in nature and ultimately capable of operating independently.

Services of the Regional and the Associate Centers now include dissemination of special instructional materials and information about materials and equipment. The Regional Centers serve as a resource for the Associate Centers in a consultative, supportive and training capacity.

The New York Special Education Instructional Materials Centers Network consists of three statewide service regions with a Regional Center designated for each area. The Network also include 29 Associate Centers located in BOCES and city school districts throughout the state. In addition, there are Affiliate Centers located in 14 state supported schools for the deaf and blind, as well as the Human Resources School.

The Administrative Regional Center is located within the State Education Department in Albany and services a 30 county region which includes 14 Associate Centers. It also coordinates the statewide activities of the Network. The Regional Center in Western New York in located within the State University College at Buffalo and serves a 21 county area covering 9 Associate Centers. Serving the remaining 9 counties and 6 Associate Centers is the Regional Center located within the City University of New York at Hunter College in New York City.

Each of the Associate Centers is in a phase of operation commensurate with its ability to provide services. Phase I requires a liaison person to act as contact between the Associate Center and the local Regional Center, disseminating information and announcements throughout the service area. Phase V, the highest level of operation, includes a full time professional, media/materials collection services, dissemination efforts, adequate facilities and some research and development activities. Providing opportunities for teachers to utilize and evaluate materials is seen as an important function of an IMC, since it is of the most immediate benefit to special class teachers and answers one of the persisting needs in a special class. IMCs do not supply materials for total school year classroom use but give the teacher the opportunity to use materials and to make judgments about future purchase.

Because of the increasing variety of materials, methods and pertinent research studies and an increasing attention to the concept of diagnostic, precision, or prescriptive teaching, computer search and retrieval will undoubtedly gain importance as an IMC service. At the present time the principal purpose of search and retrieval is to supply teachers, administrators, or classroom researchers with lists of shelved or catalogued materials relevant to a particular need or problem.

### Computer Based Resource Units

The introduction of CBRUs as another application of computers, by the New York State IMC Network, through its Regional Center at Buffalo, has provided the National Network with a viable system for the individualization if instruction. The system does provide for the teacher to make the final decision as to what would best fit a particular program and the needs of the special children in that program.

At present, some 20 completed CBRUs are available to special education teachers dealing with a variety of subject areas such as: Movigenics, Management of Social Behavior, and Drug Education, more are in developmental states. The CBRUs are designed to provide the teachers of handicapped children with the potential for meeting the special needs of their students.

The classroom teacher is in a prime position to initiate materials development and design. The purpose of this type of service is to help and encourage the special class teacher to design and develop materials for his own particular situation. The centers can help in the experimental creation of education instructional materials which if successful would be available to all. As special funds become available to state departments and local districts commercial producers address themselves to the production of materials for exceptional children. In some instances, those instructional materials prove to be useful in teaching specific types and levels of handicapped youngsters the necessary concepts and skills to help make them productive individuals.

A significant portion of the direct services offered by all centers in the Network related to demonstration and display of materials. Demonstrations are most often conducted either by Center personnel or by master special education teachers only for that purpose.

Teachers will be continually appraised about trends in materials development and the effective use of new and revised instructional materials. All centers are involved in an active program of offering conferences, special institutes and in service programs. Any in service programs are related to preparation and use of materials as well as to application of learning principles reinformement contingencies, and other findings. An increasing number of administrators are involving IMCs in their inservice training activities.

Many Centers have developed publications for teachers within their region. These usually contain articles on issues in the field of special education. Informative and educational articles and discussions of materials. The publications may include: descriptions of instructional materials for exceptional children, articles on methods and materials in the special education classroom, evaluation reports on instructional materials, articles translating research results into classroom methods and procedures, reports on instructional materials developed by teachers, special bibliographies, new product listings, and many more features for the practical minded teacher.

Two national programs, The Educational Resources Information Center (ERIC) and The Instructional Materials Center Network for Handicapped Children and Youth (IMC), in conjunction with a professional association, The Council for Exceptional Children (CEC) offer unique, coordinated information dissemination to special education.

Each of three programs -- ERIC, IMC, and CEC -- contain operations which implement a cooperative plan for the identification, collection, packaging, and dissemination of research results and information on educational methods and materials.

In virtually every field of endeavor, we find people whose wisdom and knowledge mark them as being well ahead of their own time, we have a major problem in the field of education in dispending and disseminating this new knowledge more effectively. This is a major purpose and function of the centers within the National IMC/RMC Network.

As dissemination agents, the Centers go a big step beyond the college classroom, the textbook the professional journal, or convention. The basic objective of the Centers is to shorten the communication lag between those who have the necessary knowledge and skills and those who need and wish to use them.

This is an experimental effort. Those involved hope to learn from those experiences and thus improve the educational system. If some of their functions are demonstrated to be useful, they will be picked up and operated by state and local school systems. In creating the Special Education IMC/RMC Network, a major breakthrough has been accomplished in the dissemination of knowledge, which hopefully will carry us progressively forward in the field of special education.

The Instructional Materials Centers approach deserves the careful attention of special educators, not as something to blindly omulate, but rather as a meaningful methodology from which they can learn and upon which they can build to produce even more and better systems of disseminating new knowledge and skills.

Although much of the information concerning the SEIMC Network services and activities seem to be directed at special education teachers, it is important to note that any teacher dealing with one or more special education children is eligible to receive services from the Network Centers.

As more and more special subject area instructors such as Reading Specialists, Music, Art and Physical Education teachers become more involved in instructional activities for special education students, the factor that much in the way of special materials, information, and training is available to them through the SEIMC Network becomes of prime importance. Your assistance, as their educational communications specialist, in directing them to the types of specialized SEIMC services available to them through the SEIMC Network will greatly facilitate the process of improving the quality of education for handicapped children.

Realizing that just supplying instructional materials, information, as well as other related services is not going to guarantee any real behavioral change in the instructional activities of classroom teachers, NYSEIMC has begun to move from the basic stages of development, information, and delivery to a major emphasis on training. Through the effective training of teachers by many avenues, such as multimedia programs and presentations, workshops, institutes, and individual consultations, it is planned that teachers behavior in classrooms will be modified to provide for the best possible learning apportunities for special children.

The following examples of mediated presentations, programs, and related activities which are in various stages of development production or implementation within the New York Network is presented here so that you will be able to help your eligible teachers become more aware of what's available to them through the Network and even through your centers, when appropriate.

Some of the materials have been or will be produced by the Network; others are available through the National Network, when possible.

HELP Films-

One of the earliest training series produced by NYSEIMC consists of three videotapes or 16mm kinescopes and is entitled, HELP - Techniques for Remedial Reading. They were developed to be shown in sequence and are available from the SEIMC at Albany.

1. AUDITORY PERCEPTION 37 min. b/w sound
   Introduces 3 students and gives brief diagnostic statement of learning problems. Shows the use of language masters and other remedial techniques with a child. Miss Muriel Garten explains in detail her philosophy of instruction.

2. WORD ANALYSIS SKILLS 38 min. b/w sound
   Learning patterns are described and related to an independent study activity. Kinesthetic approach in combination with visual and auditory techniques are shown.

3. VISUAL PERCEPTION 32 min. b/w sound
   Shows the administration of the Botel Reading Inventory. Activities used to improve visual memory. Demonstrates the effective use of media as intergral part of a lesson to help a student achieve a stated goal.

A program that has gained national recognition for its significance to the education of special children deals with Computer Based Resource Units (CBRUs). Developed at Buffalo State University as a Title III Project and expanded by the Buffalo Regional Center to encompass the special education field through specialized units geared toward the needs of handicapped children, the resource units are proving their worth in providing for the individualization of instruction, through suggesting specific activities matched to behavioral objectives and learner variables and including listings of instructional materials. These units are available to any teacher dealing with a handicapped child.

The most recent contribution to the field of education by the CBRU Program has been through the Drug and Health Project which will supplement the new health curriculum for New York State schools.

A major training effort is underway to prepare teachers for the effective utilization of CBRUs. Among the programs to be used are three sound/slide presentations and a videotape.

This first sound/slide presentation will be available in the very near future and will serve to introduce teachers to the concept of CBRUs and their utilization. A short segment is offered here for your edification. This presentation would be useful in introducing your eligible teachers to this program:

The second sound/slide presentation deals with more specific information on the CBRUs and is used to train teachers on how to order CBRUs. This presentation is utilized in training workshops that have been held throughout New York State as well as in other states, so that the teachers can become thoroughly skilled in the ordering and utilization of CBRUs within their instructional programs.

Narration: A videotape, produced in Buffalo, is to be used in demonstrating to teachers how CBRUs can be effectively utilized in their classrooms for various areas of instruction.

In order to provide information dealing with one of the units available from the CBRU Program, a sound/slide presentation was produced at Albany on the Unit dealing with The Management of Social Behavior. This presentation will help teachers make judgments as to which parts of the unit might be appropriate to meet their students' needs.

Each of these mediated presentations is utilized in various ways with teachers through workshops, institutes and individual showings. It is felt that familiarization and training in the various aspects of the CBRU Program will prove to be of great significance to the behavior of classroom teachers, especially in the individualization of instruction within their classrooms.

The wider field of Instructional Technology is covered through the utilization of various commercial mediated presentations and programs which are made available to teacher training in service programs by the State Network.

Among the programs available at SEIMC is the Designing Effective Instruction a filmstrip/sound-tape workshop, formally called PPIT, a 15 unit program and inservice course designed to aid teachers in learning about behavioral objectives, criterion tests, content analysis, and validation of instructional strategies. The units can be used together as a complete program or separately for specific areas. The DEI Workshop is distributed by General Programmed Teaching of Palo Alto, California.

Workshop Units

1. Introduction to Basic Principles
2. General Goals, Affective Objectives, and Cognitive Objectives
3. Main Components of an Objective: Behavioral Terms, Conditions and Standards
4. Classification of Objectives
5. Criterion Tests
6. Determining Entry Level
7. Entry Level Tests
8. Stimulus and Response
9. One-Way and Two-Way Stimulus-Response Units, Single and Multiple Discriminations
10. Content Analysis
11. Stimulus-Response Pairs in Chain Activities
12. Influence of Objectives on Content
13. Developing Objectives and Deriving Content
14. Programmed Lesson Plans and Instructional Media
15. Validation

A second series dealing with instructional design is distributed by Vimcet Associates of California. Eleven of the eighteen filmstrip-tape programs are currently available for teacher training workshops within the State Network, but plans are to acquire the full set for utilization by various centers.

Vimcet

1. Educational Objectives
2. Systematic Instructional Decision Making
3. Selecting Appropriate Educational Objectives
4. Establishing Performance Standards
5. Appropriate Practice
6. Perceived Purpose
7. Evaluation
8. A Curriculum Rationale
9. Defining Content for Objectives
10. Identifying Affective Objectives
11. Analyzing Learning Objectives
12. Knowledge of Results
13. Teaching Units and Lesson Plans
14. The Teaching of Reading
15. Discipline in the Classroom
16. Modern Measurement Methods
17. Instructional Supervision
18. Experimental Designs for School Research

The sound/filmstrip series entitled, Individualized Instruction and distributed by AECT has been acquired y the Albany Center for those who are interested in learning about the various strategies applied to this ndeavor by school systems throughout the nation.

Individualized Instruction

1. Its Nature and Effects
2. Its Objectives and Evaluation Procedures
3. Diagnostic and Instructional Procedures
4. Materials and Their Use
5. Its Problems and Some Solutions
6. Recommendations for Implementation

In order to provide instructional material (transparencies) on media for teacher training programs ponsored by Associate Centers, the Network has acquired the 3M book on Instructional Media Transparency asters and has begun a project to arrange for the production of these transparencies for programs, as eeded, through the various facilities available to the Network.

The emphasis will be on Associate Centers conducting their own in service workshops within their individual service areas, whenever possible, with the Network providing some backup services in the way of nformation, instructional materials and various other resources, as well as some direct services, such as roviding workshop leaders or consultants, when needed.

Integral in SEIMC's efforts to modify teacher behavior in the classroom and provide a greater number of ducational options to him has been the use of various methodologies to bring the teacher new and valid nformation and train him in its use.

One of these programs is the Master Teacher Plan, currently under implementation of 8 ASEIMC's. eginning with an in-depth collection in a curriculum area, a "master teacher" was employed by the SEIMC etwork to examine and learn the materials in the collection, prepare a script/mediated inservice presentaion to teachers within the ASEIMC service area. Four of the eight centers were given additional funds o support a master teacher going to another location to present the program, or, if they chose, to invite nother master teacher to their area for a program.

The 8 Centers are: St. Lawrence - Music, Clinton - Social Living Skills, Rensselaer - Reading, Herkimer - ome Economics, Oneida - Management of Social Behavior, Norwich - Parent Education, Broome - Occupational ducation, and Science, Albany.

Future Network plans include a specialty collection and master teacher at each of the ASEIMCs throughut the state.

A second effort at the Albany Center has been the beginnings on a CAI (Computer Assisted Instruction) component, utilizing the teletype system now operational in 11 Network Centers.

Presently we have a number of demonstration programs "up", among them "Rules", designed for parent use, Type, Work Study 1-4, and Test 10. More information on CAI will be available later in the year.

The MRS (Materials Retreival System) is an operational program currently available in the area of music. It is based on a list of pertinent descriptors which enable teachers to gain access to topical information n professional, instructional and therapeutic matierals for individualized or small group use with handicapped youngsters. The code sheet provides the teacher with a number of retreival options, designed to guarantee her relevant data for specific learning goals geared for specific youngsters. In production now is a similiar unit in the area of physical education for the handicapped. Approximately 1,500 entries are in the file on P.E.

The Albany Center will be glad to answer further questions about this program.

Training teachers in the use of new mediated kinds of materials for the handicapped and asking for evaluations on the items is another dimension of SEIMC's services. Programs such as the Higgin's Teledesk, developed by the Albany School System under the direction of Dr. Connie Higgins and now marketed by I.D.I., Inc., have been placed in classrooms for the handicapped through local ASEIMCs. The Teledesk offers Math and Reading programs geared to the educable retarded child.

Another commercial effort, the Peabody Rebus Reading Program, published by American Guidance Service, has been in the field for over a year of evaluation through the cooperation of a local ASEIMC. The Albany Center has in preparation a slide/tape presentation on instructing teachers of the handicapped in the use of the Rebus program.

SEIMC has also centralized a collection of professional training films at the Albany Center and loans these without charge to persons in the state involved in training activities, institutes, workshops, and conferences concerning the handicapped. New Items are acquired for the collection on a periodic basis and an annotated listing of titles is available from the Centers. In line with this activity, we recently cooperated with the CEC (Council for Exceptional Children) Information Center in producing a computerized annotated file on all professional films in the National SEIMC/RMC Network.

Many other "interlocing" projects are currently underway through this Network of Instructional Materials Centers. The Kentucky SEIMC has produced and shared with the Network a slide/tape presentation on use of the Peabody Language Development Programs K-3. Michigan State University SEIMC has just released a new service geared to provide information nation-wide in the area of the visually handicapped/deaf blind.

A very comprehensive kit has been produced by our Oregon SEIMC and distributed throughout the Network. Called a Total Information Package, this initial effort describes the Engineered Learning Project which was a four year demonstration program for behaviorally deviant children and proved successful in returning children to the regular classroom after two months of special training.

This TIP includes 8 audio-filmstrip presentations, a copy of the final report, sample brochures, budget sheets, lists of equipment and materials, and a glossary of terms.

The target audience is school administrators and should allow an administrator to utilize the package in making a decision regarding ELP appropriateness for his district. If he decides to implement the program, the package will assist him in making administrative decisions regarding budget, personnel, materials, etc.

Also a part of the National Network since 1969 are four Regional Media Centers for the Deaf. Each has a specialty area - one in ETV, one transparencies, one films, one programmed machine instruction, and all maintain intensive training programs for educators of the deaf. Here are a few samples from the Language Arts set produced by the Northeast Regional Media Center. This series contains 200 single and multiple transparencies with a teacher manual and is aimed at introduction and reinforcement of elementary language principles or forms.

These are only a sampling of the training programs and packages available through the SEIMC Network to all persons working in the area of education of the handicapped.

We hope the presentation today has alerted you to the potential inherent in working with your SEIMC Centers and we are most anxious to know of your specific needs and interests. (Interaction session begins).

# ICEIT: THE YEAR AHEAD

by Raymond Graf, William Halligan and Nancy Pline
New York State Education Department

Bill Halligan

There was an era when there was a lot of money around and a lot of peace or relative peace in the districts. Now we see that era coming to an end. We have had a tremendous increase in population and in the school population. Even though there is an anticipated leveling off in the total population, the actual school population is growing and will continue to grow because of expanding the school year at each end of the spectrum. We are getting involved in pre-school and post 12; many more kids are going to the two year colleges and four year colleges. So the absolute number of kids is increasing as we all know. We have more unrest in the schools. This also takes money, time and effort. There was a time when you could employ a teacher for $4,000 and the labor and pensive nature of education wasn't quite so impactful as it is today. Rightfully the teachers are moving into a situation of earning what they deserve, but meanwhile its causing a crunch on the taxpayer. The cost of education goes up and this cost is passed on to the taxpayer. As we saw last Tuesday the taxpayer is beginning to get turned off even about things that are relative to his own interests.

In the last four years we have had an enormous increase in budget defeats. I forget the percentages now but they are something like, (I reviewed them a while ago) in the past New York State had budget defeats in the neighborhood of ten or eleven a year, eight, seven, six, nine this sort of number and all of a sudden we jump to 78, 94, and 118. That is a huge jump. So confronted with all this, we must decide how can we bring technology to make an impact on education where education is hurting today. It is hurting right in these areas: expense (mainly expense) but also in the militancy confrontation area. The general population has turned to technology just gigantically to solve the problems of industry, the insurance business, the military, and government. They use computers and communications all over the place. They use them to make their business really go. Education has, no doubt, used technology and has begun to push it and to introduce it into its buildings into its classroom but it hasn't in anyway really brought it into a real confrontation with the problems that exist. I think this is what we are hoping ICEIT can do.

That technology will no longer be an add on type of thing, a supplement to the teacher, that it will begin to cut the mustard, that it will begin to get in there and do direct instruction. How do we do this? Now, very simply, once upon a time we have, two teachers and two classrooms and we have 25 kids or thereabouts (those numbers are going up again) in each room. What we felt we could do, was to take the elementary curriculum and somewhat arbitrarily but with professional consultation and advise from curriculum people split it in half, into what we call basic skills and content or informational subjects. We feel there are basically the 3 R's and perhaps discussion skills which require interaction with professionals. Also, the basic skills are those areas of the curriculum that are ladder areas. You can't move on in mathematics to step 4 unless you master step 3. The same way with reading you can't move on to complicated sentence structure until you have mastered simple sentence structure. In these subjects, we felt the supervision of a professional teacher was most essential. These are the areas where individualized instruction is most germain. Perhaps our own society cannot affort totally individualized media. In planning for individualized instruction we probably should pick out those areas where children do really proceed at different levels at different paces and select those areas which are very very important to their future success and happiness. Basic skills we felt should be left to the professional teacher.

There is another whole area to curriculum which for want of a better word and I am sure it will come down the pike soon, we call content areas or information curriculum. This is a relevent part of the curriculum an important part of the curriculum but it doesn't aim at producing a skill or at least so tangible a skill as say writing or reading or mathematics. These parts of the curriculum especially at the elementary level are largely informational. We are trying to inform children about say health education. They must be informed about the necessity of brushing their teeth, washing, visiting the dentist etc. They must be informed about the elements of science that they get, what are the planets in the universe, what are the differences between the animals. Most of these things are informational areas. The whole area of social studies can be considered once again at the elementary level I am not saying that skills aren't involved with each other and that there isn't a whole way of thinking, developing a historical mind, a mind that is sensitive. In the lower grades, most people will admit the content is largely informational and could be handled at least as well with a television-managed learning system as in a standard classroom. I think all the words are important here. Television is a way of getting information to a large number of students. It is a system, however, television doesn't (that which comes on the tube) pretend to do the whole job. It's the manager in much the same way that the teacher in the classroom is the manager. The child is also supplied with a large quantity of hopefully well developed, well researched associated materials, manipulable materials, games, projects, posters, tests the whole bit. So that ge is actively involved. It is not a passive sort of thing. He doesn't sit and watch the tube for 2½hours; he probably is actively involved in his own learning for about an hour and a half and then the tube is managing and giving him more information for about one hour.

Now we have the ICEIT concept; we have the once upon a time the kids got off the bus, 50 kids got off the school bus, walked into the school, 25 went into a room. They were in the room with Miss "so and so" for most of the day, nearly all of the day and she produced 25 kids at the end of the year. Miss "so and so" was very good. The kids were very lucky and they learned a lot. As well may be the case, is she was just "so-so" well then they had a "so-so" year. The students are locked in with that teacher. I should back up here. What we have is a teacher and an assistant -- a teacher aide. We have what we call a missile. When we prepared the slide we called this class the "act shop", because we want to get across the idea the kids are active; they're not just watching a tube. The teacher aide basically is a mother and a lover. She loves the kids, takes care of them when they get sick, takes them out and makes sure the general well being of the class continues. But as far as the instruction goes, part of her training will be to keep out of it. The television-managed learning track will basically do that part. Her presence is important, however, because she is a person. She brings personality into that classroom just as much as a professional teacher and she interacts with the children on a non-instructional basis, on a loving basis.

Now in the other class the 25 to 50 kids get off the bus, 25 of them go into the "act shop", and for 2½ hours are exposed to the television-managed learning track with all that goes with it. The other 25 kids go into the basic skills area and spend 2½ hours with a professional teacher in a standard classroom. One of the serendipities we look for in this, is that the teacher is freed of many peripheral preparations perhaps and certainly some very essential preparations, social studies, health education and so on. Having been freed of a lot of other details and knowing that her accountability is based on how well the children learn the basic skills, we feel that there will be improvement in that area too. In other words there will be a concentration of effort and skills for getting across those basic areas which as every educator knows, are fundamental. Now 12 o'clock comes all, the kids go to lunch, play, finish-up and come back and the "tulips" that were in the "act shop" in the morning go into the basic skills area in the afternoon. The professional teacher zeros in and teaches another set of the basic skills. Meanwhile the teacher aide goes through another session of the television-managed learning track.

What can be the result. The result is that the teacher who formerly had a total influence over 5 or 6 hours, on 25 children now has an influence on 50 children but for a shorter time. Perhaps for as much benefit to the society as we really can hope for. Efficiency is basically the motivation behind the concept. This results in a freeing up of a large number of professional teachers. Granted the individual school districts can choose what they want to do with that freeing up. They can save money; they can improve instruction, or whatever. We feel, however, that here is an opportunity to reanaylize the financial problem. I guess that is basically it.

Now Nancy is going to say what we are doing right now. We are definitely going to produce a couple of programs this year. And we want to do a road show to tell you about it. Before we get into that, we should mention that one of the key things in this whole thing, and we are very conscious of it, is field testing. We realize in the two experiments that were done so far, at least in one of them, first one, we learned we had to field test. In the second one, we did a field test with good results. Every piece of print material, every piece of the television-managed learning track that will be used, will be field tested as much as they money will allow. So that we will know what goes out, will be something that reaches (granted a large audience) that audience. One of the things we have looked for here too is quality control dimension in education. QC is the term that's used in industry all the time, quality control. And, unfortunately, in instruction in education we really haven't pursued this concept in any large measure. We give tests and we look at the net results at the end. But what happens to the kid that is exposed to the medioce teacher for a whole year. We can't guarantee that mediocre teaching will be eliminated but what this does say is that for at least half a day the student is going to get a reasonably good minimal level of instruction. Now we'll hear from Nancy on the road show.

Nancy Pline

We have had two experiments so far, one in Rochester for two weeks using the ICEIT concept and a follow-up in Baldwin for two days to improve television-managed learning system. Now we are ready for stage 3. Very shortly, we will start production of 2 days again. The 2 days we will use the ICEIT concept; it will be produced in color; it will be of high quality using all the techniques that we believe children are exposed to and should be exposed to. Many of the Sesame Street techniques that have been validated will be applied. It's going to be an exciting 2½ hours of work. The two day package will be hopefully ready about March of 1972 and we now asking to those of you in the past who have said to us we would like to field test; we are now asking you to come forward and say to us "Okay, we are ready to do it. We are going to go home from this conference; we are going to bring the idea into our respective districts."

Fourth grade level is the level that we are zeroing in for this particular two-day package. It will involve your school's whole community to implement the two-day package. You will have to redesign your school program for one or two days. It will be necessary to hire or assign aides to work with the children. Your fourth grade teachers will need to be involved. There will be a need to have your administration, teacher's association approve the project. We will have a workshop or conference in your district for those who want to learn more about the two-day format.

Why only two days? Give us the money and we will really go off and run with it but that is all we ask for now. We want to get the project implemented as quickly as possible before the Legislature meets in April of 1972 and reacts to our $3 million budget request for further development.

Now there is one thing which is also relative. About a month or so ago, a memo came out from the ESEA Title III office that went to District Superintendent and it announced a mini-proposal program which allows a grant of up to $3,000 for teachers to implement an innovated technique in their classroom situation. We talked with the Title III people we've asked them if its possible for schools who would be interested in implementing a two day road show to put in a mini proposal, and they said "Sure go ahead." It is a very competative thing. We have no way of knowing how many if any of you will be successful. But it is my understanding, it is a very simple application, details will be coming out in early December on this. Roughly it is going to be a two page application. One page saying what you want to do, page two how much does it cost. We would encourage you to keep this in mind if you are considering the implementation of the road show. We will be happy to work with you in determining the cost. It is our estimation, first of all if you have a color playback units or if you have color receivers that the cost of implementing the two-day project would be very very slight. If you don't have these things we truly recommend that you do use color. We are producing it in color and we would like the full benefit of that to be tested during the two-day project. If not, this could be part of your application. We have talked about arranging for rental of units for the two-day package or perhaps part of your application can be the purchase of this particular equipment. You will need also for the two days to have a package of materials the children use. These belong in the "act shops" as such. And there are all kinds of manipulable materials and print materials. We will have to make a charge for these. We don't know yet what it will be because it will depend on unit cost. The number of people who say to us yeah, I want to go ahead with you. So part of your grant could be for the purchase of manipulable materials. Part of the grant could also be for hiring of teacher aides if necessary. And incidently one school district using the ICEIT concept by itself last year was so turned on by it, got mothers to come in and be the paraprofessionals, they didn't pay them anything, but the mothers were very interested in working with it. So perhaps that is a thought for your two-days. There are a number of possibilities. We would like you to be thinking about this and we will be available the rest of this conference to talk with you in greater detail to start filling in some of the missing details. Hopefully we will have a chance to work with you and by March of 72 be ready for a two day field testing of this new format.

Raymond Graf

One of the purposes in the session today, fundemental purpose, is to get from the audience, educational communicators, any kind of reactions you have pursuant to procedural problems, procedural modifications or approaches that we might not have considered in the design of this project. I heard somebody comment this is a pretty simplified version of what the plan actually is. It has been simplified for purposes of this discussion. We just don't have the time to go into the detail we might have gone into. But I think you can get a flavor of what we are trying to do, and how the balance of teacher deployment, aid deployment, kid deployment should occur. So for the next couple of minutes if everyone could stay where they are and start feeding to us your concepts, your reactions, particularly on the kind of things we are going to be facing in the two-day session as it might effect your school and then in the 180 day session that we may be looking forward to -- depending on the action of the legislature in Albany. So would you now, first come first serve, hand up or yell, start giving us reactions. Nancy and Bill come up so you can face your audience. Let's get some ideas down perhaps we can make some notes as we go along at least I'd like to.

QUESTION: I think it would be interesting even at this point to know what curriculum areas you're going to pick and what areas are going to be selected so the stuff wouldn't have been covered before we got to it. To the area number one and then the television format whether it be available ½", 1".

ANSWER: It is reported that some teacher will have covered maybe a little bit of the content. We went through the social studies fourth grade curriculum looking at the concepts to be developed and planning on March as the implementation date. We decided to take the scene of the Westward Movement tying in such things as the development of the railroad on one day. The other day we are talking about the development of rivers. We are talking about heros who have been important in the development of these movements. We then move into areas such as concervation in the Westward Movement through the story of Paul Bunyun. We talk about myths. How myths were used in ancient times to tell stories. There will be some arts worked into Western movement. We are working a total approach a good blending of number of areas. I don't think we will have too much of a problem in terms of real stereo type things because it's really going to be a number of things in which children will be actively involved. The video tape formats will be 1" and ½" in color.

# PLANNING, DESIGN AND USE OF AN AUDIO DIAL ACCESS SYSTEM

by Ronald Hezel
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This presentation consists of a demonstration of a dial access system, a discussion of its use, some general considerations for dial access, and a "hands on" experience with the equipment. The purposes of this presentation are to: demonstrate a dial access system designed and constructed by media personnel, stimulate consideration of dial access systems, and consider the curriculum implications of dial access equipment.

This demonstration is designed to exhibit the capabilities of a ten program source/ten student position remote dial access audio information storage and retrieval system. The system is designed to provide audio information from any of ten sources to any of ten student positions. This information is available at student positions in any ten-ten matrix combination. The dial access system can be operated in two modes, a completely automatic system or a semiautomatic system.

As an automatic system the remote audio program sources must employ some form of repeating audio source such as an automatic rewind reel to reel tape, an endless loop reel tape, an endless loop cassette tape, an automatic record player turntable. While operating as an automatic system entry into a program takes place at some random point in time. During this type of operation no personnel commitment is required to sustain system operation.

With an attendant available, the mode of system operation can be changed to semiautomatic or some combination of both modes. The system can still provide automatic information banks but also provides the capability of some user selected program sources. The semiautomatic mode of operation requires manpower to put student selected audio information on a system source, remove the information from the system, recycle the information, return the information to storage. Distinct advantages of this mode of operation are the ability to use longer program sources and entry into the program at its start.

A further advantage of the attended system is use of an optional control panel. While monitoring the control panel is not required for system operation, its use expands control over system operations.

As the system is operating in either mode, the student's experiences are essentially the same. Tracing through a system use from the user's viewpoint gives a general picture of the system's operation. The student acquires a headset from a distribution point. If the student's reason for using the system is to listen to one of the pre-programmed sources, he goes to a student position, selects the program number from the program directory, plugs in his headset, dials the program number, adjusts the volume, listens to the program, unplugs the headset, and returns the headset to the distribution point. Should the student's reason for using the system be to listen to an unprogrammed user selected program source; the student selects his program, brings it to the attendant, attendant places the program on a system source and notes the source number, attendant tells student the system source number, student acquires a headset, goes to a student position, dials this source number, listens to the program he selected.

While the student is using the quipment at a student position, he has control over program selection and program volume. As a position is activated an on/off light goes on at both the student position and the control panel.

During the student's use experience the system is responding in many ways. As the student plugs in his headset, the system activates that position. Prior to this action, the station was off and consuming no electric power. As the station activates, the student position indicator light goes on, the master panel indicator light goes on. As the student dials a program source the clockwise rotation of the dial resets the student position relay and the counterclockwise rotation steps the student relay.

When the student relay has stepped to the correct program source, that program source's power supply is activated and the program starts. Should the student select a program already in use, he will enter the program without interrupting the existing user. The program will continue as long as either station is active. While stations are actively using program sources, this information is displayed on a master control panel. A light is on for each station in use and each program in use. Should the system attendant desire, a master override will recycle program sources to off and activates an all call system for voice communication over student position headsets.

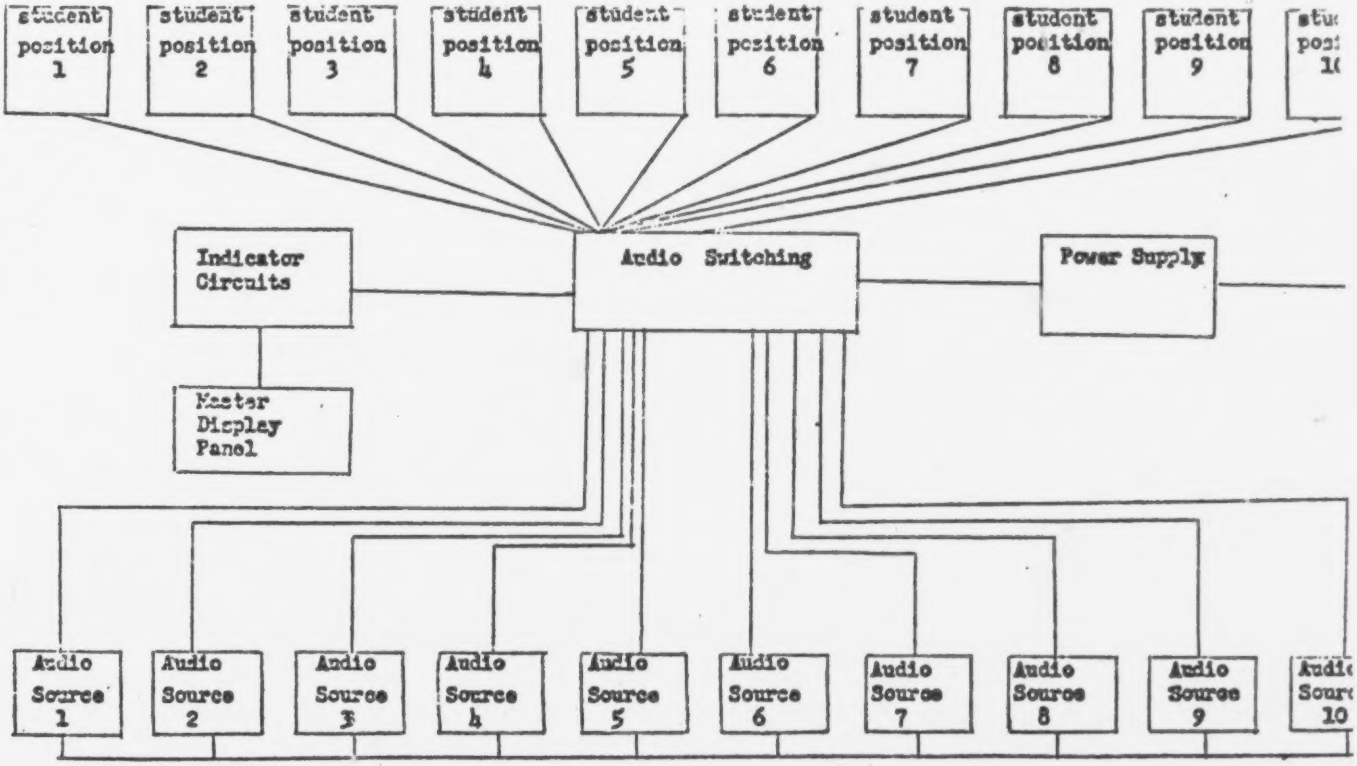
This system was designed to use common electronic components. The major parts of each student position are: headset, telephone dial, ten step-three bank relay. Some system parts such as: power supplies, power relays, and program inputs are common to all student stations.

While this system is made up of ten student stations, the same design could be used for any practical number of student stations. An additional relay is required for each student station. The same design cannot be used for more than ten audio sources. More than ten sources would require design change.

The design of this system has several unique features. Each student position is wired by using a four conductor cable. The system uses the student headset jack as an on/off switch. As the student dials a clockwise rotation resets the system and prevents additive dialing. The system provides excellent channel separation with no cross channel interference. These features are acquired by using basic components without exotic applications. A more detailed treatment of the electronics used in the design and construction of this system can be acquired from the attached schematic/block diagram.

While the design characteristics of this system are interesting and the capabilities are exciting, the system proves itself in use. Experiences with this system have shown it to be easy to operate, flexible, and dependable.

As with any dial access system, the limiting consideration has not been equipment but rather the materials for program sources. Continued update of materials and variety of program sources requires a commitment to the underlying concept of dial access. Dial access provides individualized instruction. This individualized instruction requires materials. Such materials can be acquired when a curriculum commitment to the concept is backed up by: local production of audio tapes, selection and purchase of commercial product, budget allocations, commitment of personnel, and a willingness to change instructional modes.


student position 1
student position 2
student position 3
student position 4
student position 5
student position 6
student position 7
student position 8
student position 9
student posi 1(
Indicator Circuits
Audio Switching
Power Supply
Master Display Panel
Audio Source 1
Audio Source 2
Audio Source 3
Audio Source 4
Audio Source 5
Audio Source 6
Audio Source 7
Audio Source 8
Audio Source 9
Audi Sour 10

# NUTRITION EDUCATION: NEW-FASHIONED THROUGH GAMES, GIMMICKS AND GAMBITS

by Marcella B. Guiney
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New York State has taken the leadership in requiring by law that health education courses be taught in all public schools, kindergarten through 12th grade. 1970 was the first year in which Nutrition was required to be taught as part of this Health Curriculum.

(WINDOW) "WHAT'S SO IMPORTANT ABOUT NUTRITION ANYWAY?"

Food is Life. It is as simple as that. What you are, how you think, how you feel ...every human reaction depends on the way your body is nourished. But we don't instinctively make wise food choices. We really must be taught how to choose those foods which give the body the nourishment it needs. The best place to begin is right in the classroom - where students can be taught to choose their foods wisely - where students can develop positive attitudes toward food, and where they can begin to understand the relationship of health and growth.

(WINDOW) "UGHH NUTRITION, STRAIGHT FROM DULLSVILLE!"

Oh, you think so, do you? You're probably all familiar with the State Education Department's Strand 1 on Physical Health and Nutrition. But what may be new to you is this

(COMPUTER WALKS ACROSS ---

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high speed computer print-out on nutrition, based on Strand 1. As part of the State Education Department's plan, by the end of this year, teachers will be able to put the characteristics of each individual student in their class into the computer -- and out will come

(WINDOW) "PUNCHY STUDENTS?"

No, out will come a set of nutrition activities or learning opportunities that will excite and motivate each particular student.

The test was developed by Cornell University's College of Human Ecology, and Dairy Council provided many of the nutrition education resources used throughout the unit. Right now, we'd like to show you how games, gimmicks and gambits can be effectively used as a vehicle for teaching nutrition.

LIGHTS - (SLIDE PROJECTED) #1 LITTLE HIGH ROLLERS TAKE SLUM KIDS FOR A RIDE

A recent issue of the Daily News points up how many of our young children in New York City learn through games. But what are they learning? To quote the article:

> In what must rate as one of the meanest capers in town a number of Fagin-type hustlers have turned to dice games to separate kids from coins given to them by their parents for ice cream and candy. So far, the victims have been slum children.
>
> As an added bonus, youngsters are given cut-rates on under-the-counter booze ---40¢ a drink. It's better for the kids to spend their money this way than to use it on dope, say the neighborhood folk.

Nutrition important? Do you think the little girl on the right knows that the milk container in her hand is a source of good health, not a container for dice? We doubt it -- that's why we're emphasizing games and gimmicks as relevant media in telling the nutrition story.

SLIDE OFF - LIGHTS

Basic to nutrition are the 4 Food Groups, as displayed here, and described in computer activity #102.

(HEADS OUT WINDOW) THE MEAT GROUP - THESE ARE THE GROW FOODS!
THE FRUIT AND VEGETABLE GROUP - THESE ARE THE GLOW FOODS!
THE BREAD AND CEREAL GROUP - THESE ARE THE GO FOODS!
THE MILK GROUP - THESE ARE THE GROW, GLOW AND GO FOODS!

Come along with us now and play a four-food-group game just like any third grader would. It's called "Grocery Bag." As you came in, you were given four different colored papers, color coded to the 4 food groups.

Red for the Meat Group
Green for the Fruit and Vegetable Group
Orange for the Bread and Cereal Group
Blue for the Milk Group

As I hold up a food, hold up the colored paper which matches the group it's in.

(AUDIENCE PLAY GAME)

You've just been through computer activity #118, which is sorting the foods into the four food groups.

(FELT FOOD GROUP WHEEL APPEARS)

The classroom teacher can play this game using a four food group wheel like this -- and classify and discuss the different grocery bag foods with the children.

Games are lots of fun for children, but they must be placed into a meaningful context for learning to occur. Dairy Council has developed a series of behavioral objectives in nutrition for grades K through 6 using the instructional model devised by W. James Popham of UCLA.

LIGHTS AND SLIDES ---

(SLIDE 2 - FORMAT OF INSTRUCTION)

This format has four major components: Specification of objective; preassessment or pre-testing of learners; design and use of learning opportunities; and evaluation of results.

(SLIDE 3 - OBJECTIVE)

The behavioral or measurable objective describes what the learner will be able to do after instruction has taken place.

(SLIDE 4 - PRETEST)

The pre-test determines at which level, or at which point in between, each student is performing. It helps the teacher select the most appropriate objectives and learning opportunities; it helps the student recognize his reason for learning.

(SLIDE 5 - LEARNING OPPORTUNITY)

The learning opportunity gives the student the experience and practice he needs to master the behavior that leads to the achievement of the objective. In general, the more appropriate practice the teacher can build into the learning opportunity, the more likely the learner will be able to achieve the objective.

(SLIDE 6 - POST-TEST)

The post-test measures what has been achieved in the learning process. It's been our experience that by repeating the pre-test you have a specific, immediate method of evaluating whether the student has learned the objective. You can then decide whether to go on to the next objective, or to reteach or review the learning opportunity.

LIGHTS ON

(WINDOW) - OKAY, WE'VE HAD THE THEORY --- NOW HOW
WOULD YOU TEACH THE CONCEPT THAT THERE
ARE A VARIETY OF FOODS THAT WE CAN CHOOSE?

Our behavrioral objective would be: Given a variety of foods, the child will be able to name them. There are several learning opportunities we can use to achieve this objective: Food Bingo; Food Sit-upons; Food Masks; and the Mystery Box.

This is one of a set of bingo cards using foods from the four food groups. As the teacher calls out the names of the foods, the students must be able to identify them, and cover them with markers. Whichever child completely covers his card first wins the game. A variation for more advanced students would be MEAL PLANNING BINGO. In this game, set the rule that a well-balanced meal must include at least one food from each of the four food groups.

(IN BLUE & WHITE DRESS) BONNIE WALKS OUT FROM BACK WITH SIT-UPON FISH

Here comes Bonnie, and she has with her a Food Sit-upon in the shape of a fish. We suggest this as an art activity so that the children may share different conceptions of food with each other, be it a fish, a plum, a grapefruit.

CATHY COMES OUT IN APPLE MASK & SAYS:
"I AM A RED APPLE, BUT I KNOW OTHER APPLES THAT ARE YELLOW AND GREEN. I GROW ON A TREE AND PEOPLE LIKE TO EAT ME. I TASTE GOOD."

Food Masks are another art activity that can be used to help the child verbalize his conception of various foods. Cathy is an apple, but she could also be a lemon, a pineapple, a pumpkin, or a slice of bread.

Another learning opportunity to teach the objective that the child will be able to name a variety of foods is: THE CASE OF THE MYSTERY FOODS. Let's play detective with MARGI:

MARGI: WALK UP TO FRONT ROW WITH MYSTERY BOX.
"LET ME ASK YOU SOME QUESTIONS ABOUT WHAT'S IN THIS MYSTERY BOX, CHOOSE ONE OF THE FOODS. CAN YOU TELL ME WHETHER IT'S HARD OR SOFT? IS IT ROUGH OR SMOOTH? WHAT SHAPE IS IT? HOW BIG IS IT? CAN YOU GUESS WHAT COLOR IT IS? CAN THE AUDIENCE GUESS WHAT FOOD IT IS?

TO THE
PARTICIPANT - "OKAY, TAKE IT OUR AND IT"S A ---------------"

Once the children guess the food, let them examine it more carefully, and ask questions: Will the inside be like the outside? Do you think there are seeds on the inside? How many seeds? Then, let the children cut it open and discover the answers for themselves. The climax of all this, of course, is the tasting of the food.

(WINDOW) "LET'S TRY ANOTHER CONCEPT. HOW WOULD YOU TEACH THAT FOODS COME FROM A VARIETY OF SOURCES?

Our behavioral objective for this would be: When given the name of a food, the child will identify the source. A pre- and post-test for this objective could be:

(PIG GUESSING GAME COMES OUT WINDOW)

... the GUESSING GAME. Here is a picture of a pig. What foods do we get from a pig?

WINDOW GIRL SAYS: PORK CHOPS, BACON, HAM

... By playing this game as a pre-test, the teacher is able to assess how much the children know about the origin or source of different foods. Variations of this game can be used as learning opportunities--for instance,

(BONNIE WALK OUT WITH FELT BOARD)

have the children match pictures of different animals with the foods they provide. And this same type of guessing game can also be used for a post-test to see if the objective has been achieved.

Specifically, let's take a food like milk, and run through some of the learning opportunities that show children that milk is a nutritious food essential to their health, that milk comes from a cow, and that milk is a source of other products like butter and cheese and ice cream.

Probably the best way to show that butter is made from cream which comes from milk which comes from the cow, is to make butter in the classroom. Arline is passing out jars filled with cream to show you how easy it is to do.

Will the people who have the butter jars please stand up, and we'll all watch you shake. Now shake the jars vigorously, and let's see what happens. In the classroom, the children could take turns doing the shaking. Whipped cream will be produced before the butter stage is reached, and when doing this in the classroom, everyone should be allowed to taste it at this stage. You'll all recognize it as soon as you reach the butter stage ... you'll have clumps of yellow butter floating in a cloudy liquid which is really buttermilk.

Do you have it now? Show it to the people around you. In the classroom, the children could spread the butter on crackers and taste. They would also be encouraged to taste the buttermilk. More advanced students might also like to try making cottage cheese or ice cream.

It's always surprising to us to see how many children have never seen a cow or visited a dairy farm -- many think milk comes from a carton, many think it comes from the supermarket. If the teacher is unable to plan a trip to visit a real farm, to teach where milk comes from, she can make effective use of films and filmstrips. Such a film is "HEY COW!", a 9-minute film segment from Sesame Street, made in cooperation with the Dairy Council. We'll show you just a short portion.

16mm. HEY COW FOR __________ MINUTES.

Another film that shows that milk comes from a cow and is the source of other products is based on the children's TV show, Captain Kangaroo. Here are a few slides from the film:

TAPE GOES ON WITH CAPTAIN VOICE

SLIDES # 7, 8 , 9, 10 (*NOTE: SLIDE #10 REMAINS ON)

But film has its limitations. The many requests from teachers to visit a real dairy farm with live cows encouraged Dairy Council to go all out with a rather unique project that we hoped would fill this need. Dairyday was the result.

SLIDE #11: FLUSHING MEADOW

Classes of children from the 5 boroughs of New York City, Westchester, Nassau and Suffolk Counties are invited for the day to Flushing Meadow Park, the old World's Fair grounds to see live cows and meet real farmers,

SLIDE #12

This is an annual event - 1972 will be the sixth year of the program. Five different breeds of cows are brought down from Orange County, which is where most of our New York City milk comes from. Here's a Jersey Cow.

SLIDE #13

The black and white cow is a Holstein, the other is a Brown Swiss.

SLIDE #14

Children always like to see the babies, so we bring down some calves, too.

SLIDE #15

The farmers demonstrate that milking can be done by hand as well as by machine. Of course, it's all done by machine today.

SLIDE #16

A closeup of the milk in the milking machine, just as it comes from the cow.

SLIDE #17

All kinds of questions are asked by the children. Here they want to know if the cow bites, and the farmer shows that the cow has teeth only on the bottom. They also want to know what cows eat, and the answer to this can be tied very closely to their own food needs and preferences.

SLIDE #18

Just as we did here, buttermaking is an exciting activity for them.

SLIDE #19

An old-fashioned dairy maid in costume explains how ice cream is made. We also hold a demonstration on cheese-making.

SLIDE #20

A closeup look at antique cowbells, as well as modern dairy equipment, is on display for children to examine.

SLIDE #21

A Farm Song Fest brings children to a platform and microphone, to sing and dance before their peers.

SLIDE #22

Quiz machines give children an opportunity to see how much they've learned about cows and milk products. One of our informal evaluation techniques.

SLIDE #23

15,000 cartons of cold milk are distributed free to children to climax all they learn about cows and farmers.

SLIDE #24

As they picnic with paper bag lunches on the grass, we hope each year, that it has been an experience for them that eventually will develop into a lifetime appreciation of good health.

SLIDE #25

Back in the classroom, activities reinforce the learning. These scenes are from a kindergarten classroom at St. Marks School in Queens.

SLIDE # 26

The mural you see in the background sets the theme for a play produced by the children, called ON THE FARM.

SLIDE #27

Looking carefully in the background, you can see the story written about a cow; dairy vocabulary; farm collages; and of course, the child in the Cow Mask who was the star of the play.

SLIDE #28

No trespassing because farmers Anthony and Matthew are milking their cows. The model farm you see is an exhibit available to teachers from the Dairy Council. We hope we've been able to show you that nutrition education can be fun - and that games, gimmicks and gambits can be the learning opportunities in today's and tomorrow's classroom.

SLIDE #29

This program has been brought to you by the letters C - O - and W.

# TRAGEDY IN THE TOWER: THE WRITER'S VIEW

by M. J. Tucker
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Buffalo, New York

A casual conversation with Maryln Zahler led to my participation in the making of "Tragedy in the Tower." Maryln and I had often discussed the use of media in teaching and more often reflected on the poor quality of films and aids available to college instructors. Why shouldn't she, an expert on media, then Director of Media at D'Youville College, and I, a professional historian teaching at SUNY at Buffalo, cooperate in the making of a video tape for use in one of my classes. The challenge appealed. What could be simpler or more effective than making historical films when we a team headed by a media specialist and historian?

What we thought would be simple turned out to be difficult. What looked like a short term project turned into a year's job. Why? In exploring our difficulties perhaps there is something for would-be film makers to consider and take to heart before launching their own films.

First, our group composed of Maryln, myself, Phyl Blazer, who did the audio and music; Bill Slook, the TV producer; Larry Scott and Ed Gleason, TV technicians; and Marcia Mescowitz, commercial artist, were busy people with many professional obligations. The tape was not our primary responsibility and kept getting pushed to one side to make way for other duties. Moreover, we had no budget. We were taking the project directly out of our hides. Hence, though the writer's first draft was done on August 18, 1970 and the core revisions done in September the tape was not completed until the end of June 1971. Nearly a year! Thus, the first lesson: allow more time than you think you need.

Second, there was no difficulty over selection of subject. I had written about Richard III and his nephews and also lectured to my medieval class on "the most famous murder mystery of all time." The subject had box office appeal. The lecture-writing approach of murder mystery could easily be converted into the spine of a spine-tingling TV tape. The script, it seemed, would write itself.

As a writer, my expectations were that I'd deliver a script to Maryln and that she might require some revision, but that essentially my job was done. Some day, I'd turn on the TV and there would be the finished product with somber shots of a menacing Tower of London and Richard III skulking about with murder in his heart. What a rude shock I received when Bill Slook, our TV producer, said that he'd tape me with a book in my lap reciting the script. Exactly what we didn't want -- one more damn lecture on tape.

What we wanted was to transcend the limitations of the lecture. To do things that the average lecturer couldn't do. Thus, we discarded the option of the TV taped lecture. Our first ideas encompassed excerpting film clips of such old period piece films as the Tower of London, which starred Basil Rathbone as Richard III, and also photographing local actors declaiming Shakespeare against vivid backdrops. We had to abandon both ideas to preserve the uniformity and integrity of our presentation. Basil Rathbone and the local actors' exits and entrances we decided, would cause only confusion and make our audience ask "who's playing Richard now?" Reluctantly we gave up on introducing these stars.

Since we hadn't money enough to tape a dramatization of our script and yet wanted to eliminate the appearance of a taped lecture, we were locked into slides of contemporary figures and artists' representations. Willy-nilly, we had to fiddle with these, via special effects, and hope that the script, music, and effects carried the whole. A successful model, of course, for what we were doing is The Spanish Armada, a McGraw-Hill film, where contemporary portraits are shot from different angles to simulate motion.

Looking for contemporary portraits proved exciting. Several expeditions to Buffalo libraries resulted in many slides made from portraits on books. What we found, however, when we attempted to match Miss Blazer's video directions to the audio-script was that the slides too often didn't match and that she had to devise special effects such as those dealing with visions of death and Shakespeare's antic muse. Moreover, great slides such as "The Murder of the Innocents" depicting the souls of the two princes ascending to heaven as they were smothered proved too 19th century in the artists' conception. Likewise, a magnificent slide of a youthful virile Henry VII being crowned at Bosworth Field looked too 20th century and not at all like his standard portrait.

Aside from perpetually rewriting our conclusion, losing a page of script, and becoming the TV voice of "Tragedy in the Tower," what thoughts does an historian-turned script writer have? Frankly, I am pleased with the finished product. I believe that the Music recorded by Miss Blazer sets the mood and frames the material intelligently. The opportunity to read the script helps also, for I have special feeling for Richard and his problem. The tape's note of mystery is maintained to the end. I think that the tape can be used successfully to get details and also to suggest Richard's motivation. Our main idea is to hint that though we don't know what happened, it is plausible to assume that fear of other courtiers propelled Richard into an untidy and umpremidated murder. He started with such men as Hastings and got in deeper and deeper. He was not a bad man to start with, but he certainly was a different one after his nephews' disappearance. And we end our mystery properly on a mysterious note.

With regard to making tapes for the classroom I see the need for the greatest cooperation between media specialist and historian. On the one hand, the historian has to tell what history's boundaries are and to utilize his knowledge of his period so that the limitations of available evidence do not impair or spoil a video tape. Perhaps one shouldn't make a tape unless there is enough source material. And the sources will dictate the line taken by script and video.

Educationally speaking, I now understand why television production can be time-consuming, expensive, and arduous. Yet I believe it's important for historians to experiment with all forms of media. There is nothing like the job of explaining what effects one wishes to create and what message one is preaching to make one grub in his own heart for meaning. If the writer can't explain what he is trying to do for colleagues, then how can he explain it to his students? Film and/or TV production makes the writer-historian more aware of his need for mastery of his material and understanding of his educational values and objectives. It gets the teacher out of the closed box of lecturing and stretches him as he seeks ways in his film or tape to make his students visualize events and problems. Moreover, it offers a nice change of pace. The present tape on Richard III, I believe, is a good jumping-off point for doing a unit on 15th century kingship. Hopefully, the notation that we still don't have a definitive answer to this 500-year old mystery can lead students to individual study. If an aim of education is to learn how to educate oneself, then the tape by stimulating discussion and historical study is educationally sound. The teacher through recommendations of books, articles, and source materials on Richard III has the opportunity to turn each student into an historical detective. If truth is the daughter of time, here then is an excellent opportunity to discover it, or to get as close as we are ever likely to do.

In retrospect, what would I have done differently had I the chance. I think that we should have insisted on a final deadline and individual deadlines for each of the roughly seven discrete phases in the film making. These phases can be roughly ennumerated as:

1. preparation of script (including the stress on approach, educational values)
2. collection of material for slides
3. preparation of video-directives
4. matching slides to audio-video
5. preparation of score and matching to audio-video
6. filming with score and audio-voice
7. final editing

Just as in painting a house, where the preparation takes more time than the actual painting, our preparation took more time than the several days of intensive studio work. In fact, I enjoyed the studio work more than the loneliness of writing. There was a greater sense of accomplishment in finally pacing my reading of the audio than in the preliminary collecting of slide material. What we really needed was an historical and special effects slide file. Perhaps some national media organization should provide one with computer print-out of available slides and directions on how to create special effec . At least such a file would have made our task easier.

The experience gained in our joint venture is invaluable. Should we wish to turn our effort into a film we have something tangible in our tape as an earnest of our potential and a guarantee that we have earned the right to make 16mm films. As an historian I now know what I can expect and not expect TV producers to do. The opportunity to become a risk-taker, along with Maryln, has intensified my commitment to teaching and ways of doing it better. Moreover, on the basic level of communication I feel more certain about possibilities for communicating with media experts. Now, if they would build a long corridor between my office and the media office and place coffee urns at strategic spots, I would be more confident still. For things to happen, for media to midwife history, as we have attempted to do, there has to be more opportunity for the kind of informal contact which leads to professional accomplishment.

# LOCALLY PRODUCED FILMLOOPS FOR VOCATIONAL PROGRAMS

by Arnold D. Tversky and Michael J. Pagan
Dover Public Schools
Dover, New Jersey

Quite often the student in a vocational shop or laboratory course is faced with the problem of recalling a simple manipulative skill before he can continue work on his project. In his attempt to seek help from the instructor, this future craftsman, operator, or mechanic finds that others are experiencing similar problems, the teacher doing his best to prevent loss of time and interest by quickly providing one-to-one assistance to those in trouble. Frequently, review of previously taught methods and techniques is necessary before the student can proceed to the next step and there are numerous requests for this kind of help during a single shop period. In his dilemma, the teacher, recognizing the many things technology can contribute to the instructional process, looks to the school media specialist for practical solutions to what appears to be a most difficult problem.

At Dover High School, Media Specialist, Mike Pagan, was deluged with requests from vocational teachers for single concept films that could be used to demonstrate skills in machine trades, auto mechanics, graphic arts, and cosmetology. Although commercially prepared materials were available in some areas, these films were not appropriate for our particular situation. It was obvious that custom-made filmloops were needed to satisfy everyone involved, and at this point our media specialist and vocational teachers decided to form the first single concept film production company in the school's history.

## I. Objectives of the Project

It was agreed that our immediate goal would be to produce filmloops showing basic manipulative skills in machine trades, auto mechanics, graphic arts and cosmetology. Also, each area would be equipped with projector and cassette library, available for student use when a problem was encountered.

Long-range goals included producing materials for business education, electronics, industrial drafting, science, and physical education. This would extend the services of our media center to many different programs in Dover's comprehensive high school.

Stated in behavioral terms, the student, after using these specially prepared materials, would be able to continue his project without the instructor's assistance. In a sense, the technological potential for instruction would be realized. Technology can improve teacher effectiveness -- particularly in the presentation of content or the sensing of how to present ideas more effectively to a particular audience of students.[1]

## II. Developing the Plan

The first step in getting the project under way was for the media specialist and vocational teachers to identify appropriate topics for filming. Before actually completing any single series, it was recommended that pilots in cosmetology and machine shop be produced for committee evaluation. "Combout of a Pageboy" and "Sharpening a Tool Bit" were selected. Other topics on the production agenda included the following:

### Machine Trades

Turning a Shoulder
Turning a Taper
Boring a Hole
Cutting Threads
Milling a Slot
Milling a Square
How to Solder
How to Sharpen a Drill
How to Read a Micrometer
How to Use a Dial Gage

### Auto Mechanics

Use of Engine Analyzer
Use of Bear Alignment Equipment
Use of Electronic Wheel Balancers
Use of Synarograph
Use of the Volt-Amp Tester
Use of the Generator, Regulator and Alternator Tester
Use of Drum Lathe
Use of Valve Refacing Equipment
Care and Maintenance of the Distributor
Removing, Installing, and
Adjusting Plugs and Air Cleaner

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[1] Stephen J. Knesevich and Glen G. Eye, editors. Instructional Technology and the School Administrator. Prepared by the AASA Committee on Technology and Instruction, Washington, D.C.: American Association of School Administrators, 1970. p. 27.

Graphic Arts

Composition and Justification
Paste-Up Techniques
Shooting the Paste-Up
Plate Making
Inking the Press
Running an Offset Job
Cleaning the Offset Press
Collating and Stapling
Making Pads
Running the Letter Press

Cosmetology

Shag Cut - Sectioning
Shag Cut - Setting
The Gypsy Set
Styling the Upsweep
Care of the Wig
Setting a Wiglet
Care of Long Hair
Customer Relationship Hints
Manicure Techniques

Next, the teacher's role had to be established. While this individual was indeed the chief project advisor, he was also needed to act in the films when very difficult skills were being demonstrated.

In planning for student participation, it was evident that here was an opportunity for motivational strategies to be employed. Only those who mastered certain skills were called upon to act; others were given tasks related to the technical aspects of production.

## III. Production Details

The project plan was centered around simplicity, the group keeping in mind that a single idea demonstrating a manipulative skill was the objective. No special production studio was needed nor was sophisticated equipment necessary. Required were the following items:

Equipment

1 Super 8 camera (10 to 1 zoom)
2 Sylvania hand guns (one hand held, one on stand)
1 Lettering set

Materials

film
blank cartridges
4 burlap linoleum tiles

Titling was shot separately by student media center technicians who worked closely with our media specialist in developing instructional materials in this and many other subject areas. Dissolves and fades were employed to give the film a "professional" touch.

The planning session for "Combout" lasted about one hour, even less time being devoted to setting up "Sharpening." Students and teachers displayed their interest by approaching all phases of production in a very serious manner, rehearsing their parts diligently and coming through with excellent "takes." The actual shooting time for each loop was approximately one half hour.

Films were processed commercially, mailers being sent out upon completion of the shooting. While waiting for the film to return, the crew was busily engaged in planning details for their next topic. In two days the film was returned ready for viewing and editing, a step that was accomplished in less than two hours. The results were amazing, the new local production company having successfully produced its first filmloops.

However, there was still important work to be done. Placing film into blank cartridges was no easy task for our young technicians. After wrestling with some winding and rewinding problems, they managed to develop film cassettes that were bound to become the talk of the school. Total cost of production materials for both "Combout" and "Sharpening" --- $18.00. Commercially prepared materials were listed at more than twice the cost.

Did the initial project achieve its goal? For the answer to this question, the single concept films were field tested in the areas for which they were designed. Cosmetology students felt that "Combout of a Pageboy" did indeed explain the technique vividly. Boys in the machine shop vowed they would never have to consult the instructor for an explanation of "Sharpening a Tool Bit" again. They now would utilize their custom-designed resource materials.

## IV. Utilization Techniques

Operating a single concept projector was no deep mystery to students in either section. The task of threading a projector was eliminated by the use of cassettes; however, Mike Pagan conducted inservice activities for teachers and students to assure optimum viewing experiences.

Projectors, cabinets, and screens were placed in the machine shop and in the cosmetology laboratory. A system for cataloging these locally produced materials was developed and the media center resource book was soon to have some new entries.

As each filmloop is produced, it will become part of the individual shop resource library, waiting to help a student who might have forgotten a technique already learned but who has easy access to a visual material that will refresh his memory.

## V. Projections for the Future

Now everyone wants to "get into the act." The project has appealed to teachers in academic subject areas as well as in vocational programs. Dover students who have expressed interest in different types of filmmaking, have become involved in a new dimension, one which challenges the technical, artistic, and creative talents. Our local production company is an introduction to a new vocational area in itself, one which may develop job-entry skills for many during their high school careers.

# CINEMA BOOKLIST

by Dr. George P. Rehrauer
Rutgers University
Graduate School of Library Service

The decade of the sixties might be described as a time when people attended fewer films but read more books about them. The drizzle of cinema titles that could be discerned in the late forties became a deluge of film books in the late sixties. This phenomena is coincident with and important to the inclusion of film study in the curriculum of our schools.

This writer has made a recent study which considered more than several thousand cinema books. Approximately ,600 titles were finally selected for examination in some detail. The presentation today is an overview of that total study which will be published in early 1972.

The books considered were primarily post "FILM INDEX" - the WPA study of 1938 which covered the first four decades of film history. Included were the hardbound, the paperback, the serious work, and the sensationalized pot-boiler. The sampling was designed to consider any type of book that might be pertinent to the totality known as film study.

It should be noted that most book and library catalogs place their collections in convenient categories which are not always totally accurate. A picture book may well be a history or a reference work. However, to communicate most efficiently in this short presentation, it is necessary to use such categories with the understanding that assignment of a volume is not exclusive or fixed.

Some observations that may be made from the study are:

1. The final acceptance of film as an art form has had a dual effect in schools - a geometrical growth of both the serious study of film and the printed materials necessary to support this growth.
2. No single theory of film aesthetics is totally accepted as the major one and new ones are constantly being proposed.
3. Early serious writing about film - usually in the areas of history or aesthetics - still has a certain pertinence and value.
4. In the past, picture books and gossip/scandal tomes have been the most popular audience books. Certain volumes have had constant reprintings and have appeared in many editions. There is some indication that audience taste and preference is changing.
5. The most popular subject for film books today is the director. There seems to be a cult for every director and, as a result, interviews, analysis of films, and biographies of directors are plentiful.
6. The older biographies of film personalities indicated a strong reluctance to discuss their film work. Work on the stage is described in minute detail while film work is ignored. The irony is obvious.
7. Scripts of motion pictures are being printed in greater quantity and are more widely read than printed plays.
8. There are no standards upon which printed film criticism is based. Many writers in this field are more intent upon becoming literary personalities than valid critics.
9. The older pre-1940 histories are still the better ones. A good history covering the last three decades has still to be written.
10. Books on filmmaking are plentiful and usually of high quality.
11. The small number of volumes on film study is not growing appreciably. Those available vary considerably in quality and usefulness.
12. The publication of reference works is increasing but cost is becoming a limiting factor in their availability and use.
13. Much of the newer literature on film is being published as original paperbacks. It would be a disservice if schools and libraries do not consider these volumes as seriously as they do the higher priced hardbound books. There is considerable excellence and quality in these smaller volumes.

# TESTING TIES TECHNOLOGY TO TEACHING

by Leslie M. Gibian
Ossining High School

The ideas that I plan to share with you today are not new. They are not original. They are not unknown to most people; in fact there is probably not one of you in this group that is not thoroughly familiar with the principles to be discussed. My objective then is to encourage more widespread use of techniques which put these principles into practice.

Dr. Karl Menninger is quoted as saying, "attitudes are more important than facts." What is the attitude of students in your schools toward audiovisual presentations? Do they consider them a basic tool for their learning benefit? Do they hold themselves responsible for absorbing and retaining the material presented? Or do they feel that the material in an audiovisual presentation is supplementary or enriching? Or perhaps they look upon such material as entertainment or a pleasant diversion from studies? Or do they instead consider such presentations boring and irrelevant? Have they been conditioned to look upon audiovisual presentations as baby-sitting devices?

How about the teachers in your school? Very often the attitude of students accurately reflects the attitude of their teachers.

I think most educators will agree that there is much material to be taught and that money and student time spent on audiovisual presentations should result in increased knowledge, skill, or understanding. A change in action or attitude can then be expected to result from this increase in knowledge, skill, or understanding.

Most activities are teacher-directed to the extent that the student knows ahead of time what is expected of him, what he will be held responsible for. This results in a high degree of student interest and involvement. In laboratory experiments, for example, the student is often expected to record his results when obtained and to discuss or report on them later. The activity is personalized. In a demonstration or teacher-led discussion a high degree of student involvement is often secured.

How then can we secure this same degree or perhaps even a higher degree of student involvement in audiovisual presentations? I suggest we consider the device of testing. This testing can take place either during the presentation, after it, or both. Test questions can be short-answer or essay. The test can be long and involved or very short. Even a test consisting of two or three short-answer questions can be enough to secure intense student concentration on the presentation. Questions can be very simple or very sophisticated; they should be tailor-made to the audience.

For optimum results the student should be in possession of the test questions before the presentation---at least a day before is best. Then he will know what to look for. Correction of the test by the teacher, or through discussion afterward, or both provides the necessary feedback. The teacher needs feedback to check on whether the student has absorbed the essentials of the material and the student requires feedback for the same reason.

As a lead-off into your participation in this activity, I would appreciate it if you would write your quick estimates in answer to the questions at the top of your papers:

Please estimate the number of teachers in your school or schools. ________

Please estimate the number who use testing techniques in conjunction with audiovisual resources. ________

Please estimate the number who supply students with test questions before a presentation. ________

Please estimate the number who preview new materials before showing. ________

And now you are asked to put yourself in the position of the student and write the answers to the questions during the film and slide programs.

(Each member of the audience was supplied with test questions based on the film and slide programs.)

To get the benefit of the presentation you have to take the position of a student. Please do

1. Write in the answers to the questions as you are viewing the presentation.
2. Make additional notes in the margins as you wish.

Estimate the number of teachers in your school or schools. ________

Estimate the number who use testing techniques in conjunction with audiovisual resources. ________

Estimate the number who supply students with test questions before a presentation. ________

Estimate the number who preview new materials before showing. ________

### Sample Test on "It's What's Happening, Baby"

According to the film:

1. What is most of the protest today directed against?

2. Which gap is a cause of lack of understanding between generations and peoples?

3. What course of action does Kodak not favor as a means of solving problems?

4. Which explosion compounds the effects of our population explosion?

5. Which sense does the film recommend stimulating for most effective learning?

6. Concerning the girl who says, "It's what's happening, baby," which limb or limbs are brought forcibly to the viewer's attention?

The above six questions merely serve to

1. insure closer attention to the film.
2. serve as an example of a written record of some points to which an instructor or group leader may want to refer at some later date.

These questions are not designed to emphasize the main points of the film. The teacher may want to set up a test to do this but often it can be more effectively done during or after a second showing. The simple techniques of using or reshowing only part of a film or stopping a film temporarily to allow time for discussion should not be overlooked.

### Sample Test on "Effective Visual Presentation"

According to the slide presentation:

Name four basic strengths that visuals add to communication.

1.
2.
3.
4.

Name four kinds of changes a presentation could create in a listener (or viewer).

1.
2.
3.
4.

Summarize the three suggested steps in organizing a presentation.

1.
2.
3.

The above questions exemplify the "informational record" type of involvement. The following characteristics might be noted:

A. The three questions focus attention on the three main points of this particular slide program.
B. The details are mentally observed by the person taking the test. This favors retention.
C. The test can be corrected or verified after the presentation by marking by an instructor, through discussion, or both.
D. The corrected test can be retained by the student as a record of the main points of the presentation with major details included.

Some suggestions about questions in general:

A. Supply questions in advance; a day before is best.
B. Questions can be short-answer or essay.
C. Essay questions can be answered after the test.
D. Test may consist of only two or three questions or it may be long and include many details.
E. Questions can be very simple or very sophisticated. They should be tailor-made to the audience.

Appreciation and credit is accorded to the Kodak Corporation for permission to use the film and slide programs.

# FIVE YEARS OF PROJECT OPPORTUNITY: WHAT HAS HAPPENED AND WHY

by Donald E. Walters
Project Administrator
Buffalo Public Schools
Buffalo, New York

Some years ago, several of the leading producers of equipment and materials organized an experimental program to test the effects of media saturation upon student achievement.

This program, known as "Project Discovery," was the impetus for the Buffalo Public Schools development of "Project Opportunity."

Funded under Title I of the Elementary and Secondary Education Act, Project Opportunity was begun in the spring of 1966 with an operational target date of September, 1966.

The objectives of the program were three-fold -

> to determine whether the ready availability of audio-visual equipment and materials would increase the use of these materials in the learning activities carried on in the classroom;
>
> to determine whether these audio-visual materials would improve pupil achievement;
>
> to determine whether use of the audio-visual materials in home study would increase parent interest in and understanding of their child's education.

As the program was originally conceived, each of the 7 inner city schools involved was to have an Educational Audio-Visual Specialist assigned to coordinate the program in that school. These Specialists were responsible for the operation of the Film Center but were basically to assist teachers in selection, planning and use of the materials in the classroom. Each school was to provide space to establish a Film Center where some 400 curriculum oriented 16mm sound films and over 1200 curriculum oriented filmstrips would be housed. Each of 168 classrooms in the participating schools was to receive a set of equipment which included:

1 - 16mm sound projector
1 - 35mm filmstrip projector
1 - listening station with 8 headsets
2 - filmstrip previewers
1 - projection cart
1 - table top preview screen
1 - wallscreen

Most of the inner-city schools were quite crowded and finding space for a Film Center led us to some unusual areas of the buildings.

In one school, a deserted corridor with an unused coal bin at the end was remodeled to make a birght, pleasant Film Center with a teacher preview area.

In another school, a narrow little-used teacher's room was turned into an area for pupils to do independent study with the media instantly available.

Training teachers in the use of the equipment was paramount to successful use of the materials. Once the teachers developed confidence in their ability to use the machines, usage of materials increased dramatically as the teachers began to experiment with different methods of presenting lessons based on the media.

Evaluation of the program at the end of the initial year showed simply an increased use of materials by teachers due to the instant availability of the material and equipment.

During the second year of operation in the 1967-1968 school year, the Specialists began a concentrated program of demonstration lessons designed to illustrate the various methods and techniques of teaching with films and filmstrips.

Now that teachers had confidence in their ability to use the media effectively in their teaching, they were encouraged to develop small preview - study areas in their classrooms where pupils could do independent and/or group study using the media. In addition to in-school use of the material, pupils were urged to take home filmstrips and previewers so they could work with their parents on assignments for their current studies. One aspect of the program is to develop in teachers a recognition of the need for follow-up activities which allow the pupils to exhibit their understandings of the studies they have completed. Often a simple bulletin board, such as this one prepared by a second grade class, conveys to the teacher, and the children, the pupils' competency following a unit of study. Occasionally, more detailed work may be prepared at home through the use of the filmstrips and assembled in school for a display the entire school can examine and use in their learning. The acutal preparation of these follow-up activities can be made into a teaching-learning situation that children enjoy - and the results certainly build pride in their abilities.

At the end of the second year of operation, usage statistics showed 7886 film and 9516 filmstrip usages, with 1321 filmstrips being taken home. Of all the filmstrips and previewers that went home, no equipment was lost and only two filmstrips damaged. Evaluation of the program at this point indicated a strong reliance upon the media as daily teaching tools. Pupils had begun to show marked improvement in general background knowledge.

The third year of the program's operation saw continued development by the teachers in their ability to utilize the media. The work of the Specialists in the continuing in-service training, demonstration lessons, and consultations to develop lessons and units involving the media was bearing fruit. Year end figures showed 7892 film and 11,478 filmstrip usages with 2404 of the filmstrips used at home. Parent interest and response in this phase of the program was most heartening. Written comments received were of the following nature:

> "I didn't realize things had changed so much. I learned along with my son."
>
> "A great idea! My daughter and her friends study together and really enjoy using the filmstrips. (so do my husband and I)."

Evaluations of the program for the first two years consisted of narrative surveys of teacher opinions which seemed to validate the belief that achievement could be upgraded with these materials but no concrete statistical results were obtainable. By the end of the third year of operation, the Evaluation Division of the Buffalo Public Schools was finally able to isolate some statistics which graphically supported the opinions of the teachers.

The following is from the evaluation report for the 1968-1969 school year:

> The New York State Pupil Evaluations report the median percentile for each school as an indicator of the relative position of that school in reference to the achievement of all other schools in New York State excluding the City of New York. For the Purpose of this study means were run on the scores reported for the Project Opportunity Schools and all other Target area schools. A t test of significance was additionally used to determine significant differences in mean achievement. A significant level of .05 was established as the level of confidence.

| | Project Opportunity Schools | Other Target Area Schools | Difference | t Score |
|---|---|---|---|---|
| 1965 | 24.75 | 32.32 | 7.57 | 2.33 |
| 1966 | 19.65 | 26.26 | 6.61 | 3.31 |
| 1967 | 19.69 | 26.12 | 6.43 | 3.19 |
| 1968 | 25.02 | 26.06 | 1.04 | 0.21 |

> The fall of 1965 and 1966 Pupil Evaluations reveal that the Project Opportunity schools scored significantly lower. It is significant that Project Opportunity was just getting started in the fall of 1966. By the fall of 1967, the increasing differential had been halted and the trend had been reversed. By the fall of 1968 the Project Opportunity schools had increased their mean score by 5.33 percentile points and had closed the achievement gap previously existing between the Project schools and other target area schools.

During the 1969-1970 school year, several drastic changes in the program took place: There was a reduction in staff due to budget limitations; there was an expansion of the program (utilizing available equipment) which added 2 public and 1 private school to the project.

At this point it became necessary to split service so that each Specialist serviced 2 public schools. In the parochial schools there was 1 Specialist serving 4 schools. Thus, 4 Specialists were serving 10 schools with some 290 teachers and 6985 pupils.

With the reduced services and expanded program, it was found that the achievement gains of 1968-1969 were maintained but only a slight increase noted at the end of 1969-1970. This slower advancement was attributed to the introduction of new schools to the program.

Based on the success of the first 4 years of operation, an increased budget was provided for the 1970-1971 school year. Three additional Specialists were hired and 8 new schools, 4 public and 4 small parochial added to the program. New materials and equipment were purchased so that we were able to operate 7 film centers, each having some 450 films and 1500 filmstrips. There were 480 teachers and over 11,250 children involved in the program in 1970-1971. Usage of materials increased greatly with 17,955 film and 17,958 filmstrip usages in the classrooms. In addition, 6518 filmstrips were used at home.

One of the most impressive statistics of the program through its first 5 years of operation is the minimal loss of materials. As of June, 1971, there was a total of 17 films out of service due to damage and 173 filmstrips damaged beyond repair. When we consider that this is from a total of over 3150 films and 10,500 filmstrips in daily use for 5 years, the percentages are extremely small. The pupil use of filmstrips at home has resulted in only 29 damaged and 7 lost; a small price to pay for such valuable parent involvement.

One major reason for the continuing good condition of the materials is the employment of 4 film repairers who inspect, clean and repair as needed each item after it is used. Constant maintenance of the materials has definitely prolonged their life and increased their usage as teachers always receive their materials in good condition, ready for use.

At present, Project Opportunity is operating 7 Film Centers serving 10 public and 6 parochial schools in the inner-city. There are 260 sets of equipment in daily use by over 500 teachers with more than 18,000 items available covering all curriculum areas from kindergarten to 8th grade. This year the program added transparencies, record-book combinations and listening cassettes to the array of media available. The Specialists are continuing to provide instructions in equipment operation, demonstrations in media utilization and consultant services in planning and presenting media based lessons.

The future of the Project depends upon its continued success in upgrading pupil achievement. The program has shown clearly that this upgrading can be achieved when the equipment and materials are available and most important of all, when professional assistance in utilization of media is provided. It is the Educational Audio-Visual Specialist that makes the program effective. It is the ability of the Specialist to change attitudes toward media through daily service and assistance that brings teachers and pupils to an eagerness to use media in their daily teaching-learning situations.

The program provides sufficient equipment and materials to meet everyone's needs, but withoug the personal involvement which the Specialist brings to the teacher, the media would not and could not be used to its greatest potential.

# PLACES PEOPLE LIVE: THE NON-NARRATIVE FILM TAKES ON A NEW FOCUS

by Ed Greco
Sterling Films
New York, New York

## INTRODUCTORY REMARKS

PLACES PEOPLE LIVE . . . A non-narrative series that helps the students learn for themselves.

This is a truly innovative series of films for two main reasons:

1) Comparisons are drawn in the one film between people living in different parts of the world but sharing similar environments.

2) We took the words (facts) off the sound track.

The first point enables students to develop concepts about the films' subjects in a horizontal rather than vertical pattern. The second point is most significant. The soundtrack is alive with natural indigenous sound, but there is no didactic voice-over narration to tell the student what to think. Freed from this restricting influence, students are more likely to become active viewers as they make associations, organize and sort data, and discover similarities and differences. Each film is designed to give just enough insight into the basic life-styles of the subjects so that students will become interested in knowing more. This, of course, can lead to independent or small group projects where the real learning will take place. And the teacher can guide the students in the development of critical and analytical tools rather then in the mere memorizing of blocks of information.

The series format for each of the twelve films is the same. Sharing similar physical environments but living thousands of miles from each other, two diverse groups of people are shown as they live. Students will be able to see how families function; how geography affects life; how people influence their environment; how they make a living; and how man deals with his environment in order to make it work for him. The similarities and differences between the peoples of the "mountain" or "seacoast" areas, for example, stimulate the students to venture hypotheses and test them with his fellow students. These hypotheses can be guided by the teacher and tested further by in-depth study.

PLACES PEOPLE LIVE generates active involvement rather than passive viewing, and this involvement is a vital step in the shift from dependent to independent thinking.

(a forty minute presentation with actual films and film clips)

PLACES PEOPLE LIVE . . . A non-narrative series that helps the students learn for themselves.

The series format for each of the twelve films is the same. Sharing similar physical environments but living thousands of miles from each other, two diverse groups of people are shown as they live. Students will be able to see how families function; how geography affects life; how people influence their environment; how they make a living; and how man deals with his environment in order to make it work for him. The similarities and differences between the peoples of the "mountain" or "seacoast" areas, for example, stimulate the students to venture hypotheses and test them with his fellow students. These hypotheses can be guided by the teacher and tested further by in-depth study.

PLACES PEOPLE LIVE generates active involvement rather than passive viewing, and this involvement is a vital step in the shift from dependent to independent thinking.

SUGGESTED ACTIVITIES:

1. Divide the class into discussion groups and assign each group a theme, such as weather, clothing, shelter, land, or food. Have the group prepare a report on what they discovered.

2. Role-playing: Have the students act out a day in the life of the people shown.

3. Discuss the film briefly and show it again. Ask the students if they saw anything which they had missed the first time around.

4. Make an exhibit of people around the world. Have each student bring in one picture and report on the people in the picture.

5. Have each student discover his own set of people in different locations but sharing similar environments. Have each student write or talk about the similarities and differences.

6. Discuss how man meets his basic needs -- food, clothing, shelter -- in the film shown, in various environments.

7. Discuss the role geography plays in the day to day lives of people: weather; land forms; water; distrubution of plant and animal life; work and industries developed by man.

## EXHIBITORS

ACI Films, Inc.
35 West 45th Street
New York, New York 10036

Aims Instructional Media Services, Inc.
P.O. Box 1010
Hollywood , California 90028

Alesco
404 Sette Drive
Paramus, New Jersey 07652

Leonard D. Allen, Inc.
P.O. Box 205
N. Syracuse, New York 13212

American Educational Films
331 North Maple Drive
Beverly Hills, California

Ampex Corp.
2201 Estes
Elkgrove Village, Illinois 60007

Athletic Institute
805 Merchandise Mart
Chicago, Illinois 60654

Atlantis Productions
1252 LaGranada Drive
Thousand Oaks, California 91360

A-V Communications, Inc.
65 Orville Drive
Bohemia, New York 11716

AV Systems
647 Brunet Avenue
Syracuse, New York 13203

Awareness Corp.
22 Orchard Park
Lindenhurst, New York 11757

Bailey Film Associates
11559 Santa Monica Blvd.
Los Angeles, California 90025

Borg-Warner Educational Systems
7450 North Natchez
Niles, Illinois 60648

Boston University Film Library
765 Commonwealth Avenue
Boston, Massachusetts 02215

Bouton's Audio-Visual Sales
13 North Main Street
Pearl River, New York 10965

R.R. Bowker
1180 Avenue of Americas
New York, New York 10036

Bro-Dart, Inc.
1609 Memorial Avenue
Williamsport, Pennsylvania 17701

Carousel Films, Inc.
1501 Broadway
New York, New York 10036

CCM Films
866 Third Avenue
New York, New York 10022

Centron Educational Films
1621 West 9th Street
Lawarence, Kansas 66044

Chester Electronic Labs, Inc.
Chester, Connecticut 06412

Churchill Films
5800 Arlington Avenue
Riverdale, New York 10471

Charles W. Clark Co.
564 Smith Street
Farmingdale, New York 11735

The Rud Clarke Co., Inc.
4989 Jamesville Road
Dewitt, New York 13214

Jack C. Coffey Co., Inc.
104 Lakeview Avenue
Waukegan, Illinois 80085

Colortone Camera, Inc.
75 South Central Avenue
Elmsford, New York 10523

Columbia Ribbon&Carbon Mfg. Co.,Inc.
Glen Cove, New York 11542

Communicad
Box 541
Wilton, Connecticut 06897

Concord Communications System
Box 875 - 176 Main Street
Norwalk, Connecticut 06852

Coronet Films
65 E. South Water Street
Chicago, Illinois 60601

Crowell, Collier & McMillan
866 Third Avenue
New York, New York 10022

Demco Educational Corp.
Box 1488
Madison, Wisconsin 53701

Dictation Disc Co.
240 Madison Ave.
New York, New York 10016

Educational Activities, Inc.
1937 Grand Avenue
Baldwin, New York 11510

Electronic Communications System
183 River Street
Oneonta, New York 13820

Electronic Systems for Education
800 Roosevelt Road
Glen Ellyn, Illinois 60137

Encyclopedia Britannica Educ. Co
180 E. Post Road
White Plains, New York 10601

Eyegate House
146-01 Archer Avenue
Jamaica, New York 11435

Films Incorporated
1144 Wilmette Avenue
Wilmette, Illinois 60091

Great Plains ITV Library
University of Nebraska
Lincoln, Nebraska 68508

Guidance Associates
757 Third Avenue
New York, New York 10017

Harwald Co.
1245 Chicago Avenue
Evanston, Illinois 60202

Holt, Rinehart and Winston, Inc.
383 Madison Avenue
New York, New York 10017

Honeywell Photographic Products
24-30 Skillman Avenue
Long Island City, N.Y. 11101

Howe Folding Furniture, Inc.
360 Lexington Avenue
New York, New York 10017

Hudson Photographic Industries,
Irvington-on-Hudson, N.Y. 10533

Indiana University AV Center
Bloomington, Indiana 47401

Infonics
1723 Cloverfield Boulevard
Santa Monica, California 90404

Instructional Devices Corp.
Route 17
Exit 122 and East Main Exit
RD 2
Middletown, New York 10940

International Education and Training
1776 New Highway
Farmingdale, New York 11735

International Film Foundation
475 Fifth Avenue
New York, New York 10017

International Filmtreat
733 Third Avenue
New York, New York 10017

Journal Films
909 West Diversey Parkway
Chicago, Illinois 60614

King Screen Productions
320 Aurora Avenue North
Seattle, Washington 98109

Learning Corp. of America
711 Fifth Avenue
New York, New York 10022

McGraw-Hill Text Film Division
330 West 42nd Street
New York, New York 10036

Moderning Learning Aids
P.O. Box 302
Rochester, New York 14603

Multi-Media Materials
342 Madison Avenue
New York, New York 10017

Murlyn Educational Products
14 Seabro Avenue
North Amityville, New York 11701

NBC Educational Enterprises
30 Rockefeller Plaza
New York, New York 10020

New York Times
229 West 43rd Street
New York, New York 10036

NYU Film Library
Center for Mass Communications
26 Washington Place
New York, New York 10003

Opaque Systems LTD.
175 Fulton Avenue
Hempstead, New York 11550

Paillard, Inc.
1900 Lower Road
Linden, New Jersey 07036

Panasonic VTR/CCTV
200 Park Avenue
New York, New York 10017

Paulmar Co., Inc.
464 Central Avenue
Northfield, Illinois 60093

George A Pflaum
38 West Fifth Street
Dayton, Ohio 45402

Polocoat, Inc.
9750 Conklin Road
Cincinnati, Ohio 45442

Pyramid Film Producers
P. O. Box 1048
Santa Monica, California 90406

Radio Matic of America, Inc.
760 Ramsey Avenue
Hillside, New Jersey 07205

RCA Records
1133 Avenue of the Americas
New York, New York 10036

RCA Service Co.
Building 203-3 Dept. 1614
Camden, New Jersey 08101

Redpath Art Service
16 Newton Avenue
Sussex, New Jersey 07461

Research Technology, Inc.
8260 North Elmwood Avenue
Skokie, Illinois 60076

Reynolds Printasign Co.
9830 San Fernando Road
Pacoima, California 91331

Warren Schloat Productions
Pleasantville, New York 10570

Scholastic Magazines
900 Sylvan Avenue
Englewood Cliffs, New Jersey
07632

Scott Education Division
Scott Graphics Inc.
Holyoke, Massacjisetts 01040

Shibaden Corp. of America
58-25 Brooklyn-Queens Expressway
Woodside, New York 11377

Society for Visual Education, Inc.
1345 Diversey Parkway
Chicago, Illinois 60614

Sonocraft Crop.
29 West 36th Street
New York, New York 10018

Sony Corp. of America
47-47 Van Dam Street
Long Island, City, New York 11101

J. S. Staedtler, Inc.
Montville, New York 07045

Sterling Educational Films
241 East 34th Street
New York, New York 10016

Stickley-Siver, Inc.
200 Plaza Drive
Binghamton , New York 13903

Syracuse Film Library
Collendale Campus
Syracuse, New York 13210

Telemation, Inc.
P. O. Box 15068
Salt Lake City, Utah 84115

Telex Communications Division
9600 Aldrich Avenue South
Minneapolis, Minnesota 55420

3M Business Products Sales,Inc.
141 East Main Street
Elmsford, New York 10523

3M Magnetic Productions Division
700 Grand Avenue
Ridgefield, New Jersey 0757

3M Visual Products - 3M Center
Building 2209 E
St. Paul, Minnesota 55101

3M Wollensak
15 Henderson Drive
West Caldwell, New Jersey 07006

Tuthill's Audio-Visual Center
412 Chenango Street
Binghamton, New York

Universal Education & Visual Art
100 Universal City Plaza
Universal City, California 91608

Urban Media Materials, Inc.
P. O. Box 133
Flushing, New York 11365

Valiant Instructional Materials
237 Washington Avenue
Hackensack, New Jersey 07602

Video Circuits, Inc.
346 West Route 59
Nanuet, New York 10954

Video Eng. Inc.
101 Industrial East
Clifton , New Jersey

Viewlex Inc.
Holbrook, New York 11741

Walt Disney Educational Materials
800 Sonora Avenue
Glendale, California 91201

Westchester Audio-Visual Center
173 Summerfield Street
Scarsdale, New York 10583

Wombat Productions Inc.
87 Main Street
Hastings-on-Hudson, New York 10706

Xerox Films
1200 High Ridge Road
Stamford, Connecticut 06905

Xerox University Microfilms
272 George Street
New Haven, Connecticut 06511